

Decentralizing Revenue in Latin America

Why **and** How

**Vicente Fretes Cibils
Teresa Ter-Minassian**

EDITORS



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Foreword

LATIN AMERICAN COUNTRIES HAVE MADE GREAT STRIDES IN INCREASING TOTAL REVENUE. THE BIGGEST CHALLENGE THEY FACE, HOWEVER, IS REFORMING TAX INSTITUTIONS AND RULES. The importance of taxation as a development tool cannot be emphasized enough, since tax reform has significant implications for sustainable and inclusive growth in the region.

There are two reasons Latin America lags behind in its level of development in terms of taxation. First, most countries are still far from exhausting their revenue potential. Second, taxes are not yet designed to promote development. In particular, subnational governments in the region must generate more own-source revenue because this will enhance budgetary resources for local development and increase the transparency of costs to provide local goods and services, thereby promoting efficiency. Furthermore, it will allow local authorities greater autonomy in choosing and implementing policies that are better tailored to the needs and preferences of the population demanding and receiving them.

The tax situation varies among countries, and the region suffers a clear imbalance in fiscal decentralization, with revenue substantially lagging behind spending. As a result, many subnational governments are highly dependent on transfers from central governments. In addition, this imbalance between own-source revenue and transfers makes subnational government finances more vulnerable and less predictable, hindering the ability of local authorities to prepare more stable and realistic budgets.

Using case studies that span a range of countries of different sizes, levels of development, extent of decentralization, and systems of government, this book demonstrates that there are various factors holding back revenue decentralization in the region. Taking into account the likely economic, institutional, and political constraints on the reform process, the analyses show the following:

- *Revenue assignments at the subnational level need to be revisited to provide more meaningful ways to increase own-source revenue.* Potential tax handles include subnational surcharges on the national personal income tax, retail sales

tax, regional excises or surcharges on national excises, and a subtraction-type value-added tax (VAT).

- *Reform efforts have to focus on strengthening capacities for subnational governments that already have appropriate revenue handles (property taxes).* Such reform involves not only investments in building and maintaining effective property cadasters, but also avoiding erosion of the property tax base through exemptions, moving statutory rates toward the upper limit of permissible ranges set by the central government, and strengthening enforcement.
- *Given the political cost to subnational governments of increasing the burden of taxation on their populations, incentives have to be created for them to better exploit their revenue potential.* These incentives depend crucially on the extent of the subnational budget constraint, such as the degree to which intergovernmental transfers are discretionary or formula based, whether borrowing constraints are loose or mostly discretionary, and on the level of transparency of subnational budgetary operations.
- *Reforms to strengthen mobilization of subnational own-source revenue need to be accompanied by introducing or improving transfer systems aimed at equalizing, to the extent feasible, revenue capacities and spending needs.* In order to have a sound intergovernmental relations system, it is important to consider the distribution of revenue capacities within a country, which are typically quite uneven and frequently do not match the distribution of spending needs.
- *Central governments need to support subnational governments in mobilizing own-source revenue through policy and administrative reforms.* Unfortunately, central governments are often a major obstacle to developing own-source revenue because of fear they will lose fiscal control, political bargaining power, and bureaucratic influence.

Subnational revenue mobilization and reform in Latin America are essential, despite the obstacles for proceeding with revenue decentralization. There is no unique approach, and the path to reform will likely be context-specific and highly dependent on the balance struck between differing political and economic factors and interests. Should countries in the region take on this challenge, however, not only will revenue be generated in the future but the changes should contribute to sustained and inclusive growth.

We hope that the analyses and country experiences presented in this book will fuel meaningful debate about the decentralization of revenue and contribute to sensitizing national policymakers and authorities in Latin America to the benefits of sound revenue decentralization.

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Preface

ALTHOUGH GREAT STRIDES HAVE BEEN MADE IN INCREASING TOTAL REVENUE, REFORMING TAX INSTITUTIONS AND RULES REMAINS ONE OF THE BIGGEST CHALLENGES facing Latin American countries. The importance of taxation as a development tool, as highlighted in “More than Revenue,” the newest edition of the IDB’s annual flagship publication, cannot be emphasized enough, since tax reform has significant implications for sustainable and inclusive growth in the region.

There are two reasons the region lags behind its level of development in terms of taxation. First, most countries are still far from exhausting their revenue potential. Second, taxes are not yet designed to promote development. In particular, subnational governments in the region must generate more own-source revenue because this will enhance budgetary resources for local development and increase the transparency of costs to provide local goods and services, thereby promoting efficiency. Furthermore, it will allow local authorities greater autonomy in choosing and implementing policies that are better tailored to the needs and preferences of the population demanding and receiving them.

Although the tax situation varies among countries, the region suffers a clear imbalance in fiscal decentralization, with revenue decentralization substantially lagging spending decentralization. As a result, many subnational governments are highly dependent on transfers from central governments. In addition, this imbalance between own-source revenue and transfers makes subnational government finances more vulnerable and less predictable, hindering the ability of local authorities to prepare more stable and realistic budgets.

Using case studies that span a range of countries of different sizes, levels of development, extent of decentralization, and systems of government, this book demonstrates that there are various factors holding back revenue decentralization in the region. Taking into account the likely economic, institutional, and political constraints on the reform process, the analysis shows the following:

1. *Revenue assignments at the subnational level need to be revisited to provide more meaningful ways to increase own-source revenue.* Potential tax handles include subnational surcharges on the national personal income tax, retail

sales tax, regional excises or surcharges on national excises, and a subtraction-type value-added tax (VAT).

2. *Reform efforts have to focus on strengthening capacities for subnational governments that already have appropriate revenue handles (property taxes).* Such reform involves not only investments in building and maintaining effective property cadasters, but also avoiding erosion of the property tax base through exemptions, moving statutory rates toward the upper limit of permissible ranges set by the central government, and strengthening enforcement.
3. *Given the political cost to subnational governments of increasing the burden of taxation on their populations, incentives have to be created for them to better exploit their revenue potential.* These incentives depend crucially on the extent of the subnational budget constraint such as the degree to which intergovernmental transfers are discretionary or formula based, whether borrowing constraints are loose or mostly discretionary, and on the level of transparency of subnational budgetary operations.
4. *Reforms to strengthen mobilization of subnational own-source revenue need to be accompanied by introducing or improving transfer systems aimed at equalizing, to the extent feasible, revenue capacities and spending needs.* In order to have a sound intergovernmental relations system, it is important to consider the distribution of revenue capacities within a country, which are typically quite uneven and frequently do not match the distribution of spending needs.
5. *Central governments need to support subnational governments in mobilizing own-source revenue through policy and administrative reforms.* Unfortunately, central governments are often a major obstacle to developing own-source revenue because of fear they will lose fiscal control, political bargaining power, and bureaucratic influence.

Despite the obstacles to revenue decentralization, it is essential to recognize the importance of subnational revenue mobilization and reform in Latin America. There is no unique approach, and the path to reform will likely be context-specific and highly dependent on the balance struck between differing political and economic factors and interests. However, should Latin American countries take on this challenge, not only will revenue be generated in the future but the changes should contribute to sustained and inclusive growth.

We hope that the analysis and country experiences presented in this book will fuel meaningful debate about the decentralization of revenue and contribute to sensitizing national policymakers and authorities in Latin America to the benefits of sound revenue decentralization.

Lackluster Performance: Local Taxes in Latin America

1

THIS BOOK ANALYZES THE REASONS FOR THE LACKLUSTER PERFORMANCE OF SELECTED LATIN AMERICAN COUNTRIES IN MOBILIZING SUBNATIONAL OWN-SOURCE REVENUES and explores policy options to increase these revenues as efficiently and equitably as possible. Seven case studies—Argentina, Bolivia, Brazil, Colombia, Mexico, Peru, and Venezuela—span a wide range of characteristics, including federal and unitary countries, different geographical sizes, levels of economic development, and degrees of revenue decentralization. In this book, subnational governments include both intermediate and local levels of government, which are distinguished in the case studies (see footnotes in this chapter and Appendix 1 for the political organization of each country). Together, the case studies provide a reasonably representative picture of the challenges faced throughout Latin America in mobilizing subnational own-source revenues in a manner that supports equitable growth.

This chapter begins with a theoretical discussion of the objectives and obstacles that subnational governments face in mobilizing own-source revenues. It reviews the main pros and cons of subnational tax handles, and presents an overview of trends in subnational finances in the Latin American region. It concludes with a summary of the main findings of the case studies, as well as a discussion of lessons for future subnational revenue reforms in the region.

Theoretical Considerations

The primary goal of decentralization is to improve public services at the subnational level. The literature on fiscal decentralization has traditionally emphasized the macroeconomic and efficiency benefits of assigning significant own-source revenues to subnational governments. However, it also recognizes

the substantial economic, institutional, and political economy obstacles to revenue decentralization. These obstacles are evident in the Latin American region. International comparisons indicate that, on average, revenue decentralization in Latin American countries is significantly less advanced than in Organisation for Economic Co-operation and Development (OECD) countries and in comparable emerging economies in other regions, giving rise to substantial vertical imbalances.

First to Second Generation Theory

The traditional “normative” theory of fiscal federalism, represented in the work of Musgrave (1969), Oates (1972), and Tiebout (1961), emphasized the benefits of decentralization in terms of efficiency of resource allocation. The theory rested on assumptions about the ease with which decentralization would lead to effective governance that reflected the experience and conditions in the United States and other advanced countries. In these countries, the assumptions of relatively transparent and effective subnational governments, and politically alert and mobile electorates, facilitated decentralization. However, the more recent literature on decentralization, the so-called second generation fiscal federalism, a “positive” theory, as reflected in the work of Weingast (2006, 2009), has questioned the realism of those assumptions, especially in developing countries. Authors have pointed to the constraints that low incomes, underdeveloped housing markets, and strong ethno-regional attachments pose on the mobility of citizens in such countries. Societies may also have structural impediments to broad citizen participation, and local public institutions may be dominated by economic elites.

Furthermore, second generation fiscal federal theory emphasizes the importance of countervailing influences, somewhat akin to “checks and balances” or the need to balance centripetal and centrifugal forces to make decentralization effective. An effective federal system rests on a hierarchy of governments, each with the following:

- A delineated scope of authority as a prerequisite for effective decentralized governance
- A functional market-preserving federalism containing subnational autonomy
- Hard budget constraints
- A national common market
- An institutionalized pattern of authority in which the central government cannot unilaterally reshape the federal agreement and compromise the jurisdictional autonomy of subnational governments

Causes of Variations in Outcomes

Decentralization is not always implemented in a way that maximizes government performance, and has widely varying outcomes across and within countries. Recent literature identifies several issues that affect outcomes. One variable is that not all actors have incentives, motivations, or reasons to support decentralization. The issue thus becomes one of understanding the circumstances under which political parties, interest groups, and community organizations make use of decentralization to secure benefits for the citizenry at large, as contrasted with interest groups securing particularistic or political benefits. Another variable that influences the effectiveness of local governance, and that is not subject to “elite capture,” is the competitiveness of the local electoral environment. In general, more competitive local elections lead to more effective government as local actors seek to build their reputations for responsiveness to the locality. Another variable used to explain the relative effectiveness of different subnational governments is leadership. Leadership is a challenging variable to conceptualize and measure, and, as a character trait, is difficult to predict; however, a reasonable argument can be made that local politicians are likely to act on the incentives they face. Shaping these incentives so that they favor effective governance is a feasible goal.

Recentralization

Revenue decentralization has not always followed a linear trend, as some countries have gone through phases of decentralization and recentralization, reflecting shifting power balances among government levels and/or macroeconomic management imperatives. In Latin American countries, recentralization has taken a variety of forms. It has occurred less often by eliminating subnational authority (in the political, fiscal, or administrative dimensions) and more by reducing autonomy using a variety of institutional arrangements layered on top of the decentralized framework. That is, subnational elections have not been halted and decentralization laws have not been repealed, but central governments have found ways to limit subnational autonomy and constrain their scope of action.

The causes of recentralization are numerous, but a common theme is that central governments increasingly find ways and means to reassert central primacy. The literature identifies two reasons for recentralization. The first is “justifiable” recentralization on the grounds of problematic subnational governance. The second is a result of central government electoral or other political incentives to reassert control or contest subnational governance authority.

Benefits of and Obstacles to Mobilizing Subnational Own-Source Revenues

Both the “normative” and the “positive” theories of fiscal federalism recognize the benefits of granting a significant degree of autonomy to subnational governments in making decisions about the level and composition of their revenues.

Greater Efficiency: Decentralization puts pressure on subnational governments to be efficient because local governments implicitly compete with other jurisdictions for mobile factors of production. As one jurisdiction improves in providing local public goods and services to its population, it becomes more attractive to capital and workers, thereby increasing its economic development potential, as well as its tax base and spending capacity.¹ In the long run, decentralization should improve the efficiency of taxation and the effectiveness of providing services across all jurisdictions, with beneficial effects for national economic development.

Additional Revenue Mobilization: Revenue decentralization also has the potential to increase overall national revenue by allowing better exploitation of revenue sources (such as property taxes and user fees) that would likely be neglected or administered less effectively at the central government level.

Fiscal Predictability: Financing with own-source revenues provides greater certainty to subnational governments compared to central government transfers, which are usually more volatile, especially when based on natural resources. A strong local tax base facilitates the preparation of more realistic budgets and reduces volatility in their execution.

Fiscal Responsibility: Adequate autonomy to raise revenue promotes subnational fiscal responsibility, which tends to be undermined by a subnational government’s reliance on gap-filling transfers or other bailouts by the central government (the so-called soft budget constraint).

Political Accountability: Allowing subnational governments greater autonomy in revenue mobilization can enhance their political accountability and thereby

¹ This argument (yardstick competition and its benefits) is emphasized by the second generation literature on fiscal federalism.

their incentives to spend efficiently. Decentralization brings government decision making closer to the people and improves the ability of citizens to monitor local officials. One of the main sources of accountability is the electoral process where officials have incentives to respond to their constituents for the taxes they collect and the resources they spend.

Conformity with Local Preferences: Decentralization promotes governmental decisions that more closely reflect local preferences and makes it possible for policies to vary from place to place in ways that reflect the heterogeneity of such preferences. Subnational taxation facilitates alignment between the tax structure and the differences in local preferences.

Despite these benefits, the literature also recognizes significant economic, institutional, and political constraints to mobilization of own-source revenues by subnational governments.

Economic: Tax bases are generally spread unevenly across the national territory, resulting in disparities in subnational own-source revenues and the ability to finance public goods and services. Moreover, the mobility of potential tax bases within the national territory can generate inter-jurisdictional tax competition, which facilitates preference matching, but may also reduce the collection discretion of subnational governments. If unchecked, local tax competition can lead to a race to the bottom that ultimately undermines the financial sustainability of subnational governments. Systems of intergovernmental transfers can partially compensate for the uneven distribution of tax bases and differences in tax capacities.

Institutional: The capacity to collect taxes varies substantially among subnational governments. Local tax administrations are often unable to exploit economies of scale in collecting and enforcing taxes, and have fewer human resource and technical capabilities, especially compared to national tax administration agencies. Moreover, compliance costs for taxpayers operating in multiple subnational jurisdictions are magnified by the existence of (often substantial) differences in subnational tax laws and administrative procedures.

Political: Central governments tend to control the most important tax bases and maintain power to influence the fiscal decisions of subnational governments. Subnational governments generally try to avoid the political costs and administrative difficulties involved in levying local taxes, and prefer to rely on central government transfers.

Economic and administrative factors affect the ability of subnational governments to mobilize own-source revenue efficiently and equitably, whereas factors of political economy affect their willingness to do so. Disentangling capacity from effort-related determinants of low subnational revenue mobilization is important in creating appropriate revenue assignments and intergovernmental transfers.

The balance between the benefits and costs of revenue decentralization vary across countries and over time, reflecting changing economic, institutional, and political conditions. It is difficult to find robust empirical explanations as to the degree of revenue decentralization. There appears to be little correlation between the degree of revenue decentralization and the form of government (federal or unitary), the level of development, the composition of gross domestic product (GDP), the degree of dependence on revenue from non-renewable natural resources, or even the degree of spending decentralization.

Own-Source Tax Bases

To increase own-source revenues, subnational governments often need new tax bases. Theoretical considerations and lessons learned from experiences in various countries suggest that several characteristics of subnational taxes are desirable. Jurisdictions should be assigned tax bases with relatively low mobility to ensure adequate potential to raise revenue. A low sensitivity of such bases to cyclical fluctuations and other exogenous shocks contributes to revenue stability for subnational governments. A relatively even distribution of the tax bases across the national territory avoids distortions and risks of adverse spillovers, such as tax exporting or predatory tax competition. Low administrative and compliance costs foster efficiency and reduce incentives to evade taxes.

Table 1.1 assesses how various types of subnational taxes fare in terms of these characteristics. It scores (as high, medium, or low) the conformity of each potential subnational own-source revenue (with the caveat that specific economic or institutional circumstances may affect that scoring in individual countries).

No single tax option is clearly superior to another. For example, the value-added tax (VAT) enjoys very extensive collection potential but carries high administrative and compliance costs that may affect where companies decide to locate. Payroll taxes have medium revenue potential and low administration and compliance costs but can negatively affect efficiency and are very sensitive to the economic cycle. Property taxes, despite offering strong collection potential and a fixed base, involve high administration costs.

The decision as to which tax to adopt, whether a full or partial assignment of some tax bases to subnational governments will be made, and, whether they

Table 1.1 ■ Scoring of Potential Subnational Revenue Sources by Criteria

Tax	Revenue potential	Mobility of tax base	Potential efficiency costs	Sensitivity to cycle	Even distribution of tax base	Costs of admin.	Compliance costs	Visibility	Political acceptability
Personal income	V	L	L	M/H	L/M	H	M/H	H	L/M
Personal income surcharge	V	L	L	M/H	L/M	L	L	M	M
Corporate income	M	H	H	H	L	H	M/H	H	M
Retail sales	M	L	L	M	M	H	L/M	M	M
Turnover	H	L	H	M/H	M	M	M	L/M	H
Value-added	H	M	H	M/H	L	H	H	M	M
Business value-added	M	M/H	M/H	M/H	L	M	M	M	M
Excises	M	M	M/H	M	L	M	L	L	M/H
Property	V	L	L	L	L	H	M	H	L
Betterment and valorization	V	L	L	L	L	H	M	H	L
Financial transactions	M	H	H	H	L	H	M/H	H	M
Stamp duty	L	–	H	L	L	L	L	–	–
Payroll	V	L	H	M/H	L/M	H	M/H	H	L/M
Green	L	L	L	L	L	H	M	H	M
Other sources									
Royalties	H	L	L	H	L	M	M	H	H
User fees	M	L/M	L	L	M	M	M	H	M

Source: Authors' compilations.

Notes: H = high; M = medium; L = low; V = varying; – = not a salient feature of this tax.

will administer the taxes depends on the particular conditions in each country, including the need for subnational revenue. The arguments for and against the assignment of certain taxes to subnational governments are detailed below.

Direct Taxes

A **surcharge on personal income tax** combines the advantages of relatively low mobility of the tax base and conformity to the principle of low exportability. Piggybacking on the national income tax offers low administration and compliance costs as well as visibility, thus increasing political acceptability. The mechanism would require every subnational government to impose a surcharge within a range set by the central government, offering some degree of autonomy and direct competition among jurisdictions. The revenue potential of this surcharge of course depends on that of the personal income tax on which it is levied. Personal income taxes are unlikely to generate substantial revenue in economies with high informal labor. For instance, in Latin America, such taxes have generated on average only 2.5 percent of GDP in the past 20 years.

In contrast, a **subnational corporate income tax (or surcharge on the national tax)** has better potential to raise revenue but has a number of downsides. A surcharge tax is avoidable as it is exportable outside the tax jurisdiction. It is also highly sensitive to the economic cycle, tends to be concentrated in relatively few jurisdictions where most corporations are headquartered, and entails substantial administration and compliance costs.

Goods and Services Taxes

Subnational **retail sales taxes** are fairly frequent at the local and intermediate government levels. Compared to income taxes, such taxes have the advantages of lesser cyclical sensitivity, a more uniform distribution of the base, and possibly less visibility. They are, however, difficult to administer and enforce in countries characterized by a high degree of informality, or where the retail sector is very fragmented and lacks the capacity to properly maintain the required accounting records.

Turnover or production taxes levied on inter-enterprise sales tend to be favored by subnational governments for their high revenue potential, even at relatively low rates, as well as their relative ease of enforcement and low visibility. However, because of their cascading nature and exportability, these taxes entail high efficiency costs and tend to be more cyclically sensitive than retail sales taxes because consumption is more stable than total turnover.

An intermediate, invoice-based, **value-added tax** has the advantage of relatively high revenue potential and lacks the cascading and related distortions of

a turnover tax. It is competitiveness-friendly because it can be levied on imports and credited against exports. Compared to a retail sales tax, its enforcement is more effective because it is levied on all stages of production with the well-known self-policing mechanism of invoice crediting. If the VAT is levied on consumption, its base tends to be more evenly distributed than is the case for income taxes and it is less cyclically sensitive. Despite these advantages, however, it is important to consider the significant costs. Subnational capacity to administer a multistage tax is limited, especially if levied with multiple rates and multiple exemptions. Compliance costs for commercial taxpayers operating in multiple states are high, especially if VATs are levied on different tax bases or have different administrative procedures. Most importantly, taxation of interregional trade poses special difficulties, as discussed in Box 1.1.

These difficulties explain why international experience with subnational VATs is quite limited. Besides Brazil (discussed in detail in Chapter 4), the only other intermediate-level VATs are found in India and Canada. The Indian state-level VATs, which are origin-based, have been the object of protracted reform efforts that have not yet come to fruition. Canada has experimented widely with provincial taxes on goods and services, and currently has three different systems. The Canadian provincial VAT systems show that, if there is a high degree of cooperation among tax administrations and appropriate information systems, it is feasible to administer multistage subnational VATs that preserve a degree of subnational autonomy and combine the benefits of collection at origin with revenue allocation on a destination basis for interstate transactions.

An alternative source of revenue is a **tax levied on the value-added of individual enterprises**, calculated by the subtraction method (i.e., sales minus the cost of material inputs). This type of tax could generate significant revenue in some Latin American countries. The best example of this is the Italian *Imposta Regionale sulle Attività Produttive* (IRAP), which has the advantages of being noncumulative and avoiding the problems connected with taxing interstate trade. Being relatively easy to calculate, it involves limited compliance and administration costs, but it lacks the self-policing features of the invoice-crediting method. This type of VAT acts in favor of imports and against domestic production and exports because it is not deductible from the tax base. It is an additional tax on labor and, therefore, discourages formal employment. It is a relatively visible and politically unpopular tax, as demonstrated by the repeated attempts to repeal it in Italy.

Subnational governments frequently levy **excise taxes** on the consumption of specific goods and services, either on a stand-alone basis or, more frequently, as a surcharge on central government excises. Typical bases for subnational excises are gasoline, tobacco products, alcoholic and soft drinks, and public

Box 1.1 Problems Connected with the Treatment of Interregional Trade under a Subnational VAT

If a subnational VAT is intended to tax consumption within the jurisdiction—meaning it is based on the destination principle—exports to other jurisdictions should be zero-rated. This means that the VAT paid on the various stages of production of exported goods should be refunded at the border. Conversely, the VAT should be levied at the border on goods imported from another jurisdiction. This is made difficult, however, by the lack of such borders among the subnational jurisdictions of a country.

Levying a subnational VAT on internal production based on the origin principle alleviates administration difficulties, but can engender predatory tax competition among states as they reduce the tax rate to influence the location decisions of enterprises. It can also stimulate avoidance practices as enterprises operating in multiple jurisdictions use transfer prices to shift their value-added from higher to lower rate states. Moreover, an origin-based subnational VAT adversely affects external competitiveness unless it provides for zero-rating of exports abroad and taxation of imports at the domestic rate.

Therefore, a major challenge in designing subnational VATs is combining collection of the taxes on an origin basis with distribution of their revenues on a destination basis. The literature offers a number of suggestions toward that objective: the Compensatory VAT proposed by Varsano (2000), the Viable Integrated VAT proposed by Keen and Smith (1996), and the Pre-paid VAT proposed by Hutton and Poddar in 2001 (Keen and Lockwood, 2010). So far, none of these proposals has been put into practice.

The European Union (EU) experience clearly illustrates the difficulties of enforcing a destination-based VAT in an integrated economic region. When the internal market was launched in 1993, it was envisaged that, following a relatively short (three-year) transition period during which the VAT on cross-border intra-EU transactions would be collected in the destination state at rates applicable there, collection would eventually shift to an origin basis, with the revenue redistributed through a clearinghouse mechanism among member states on a destination basis (using information in VAT declarations or macroeconomic data on the distribution of consumption across the EU). Reflecting difficulties in reaching a consensus on a number of key issues (such as creation of the clearinghouse), VAT on goods continues to be collected in the EU on a destination basis, despite evidence of large-scale fraud (e.g., the carousel fraud) facilitated by the break in the VAT chain resulting from the exemption of cross-border sales (European Commission, 2010).

services such as electricity and mobile phones. Such taxes are increasingly being levied, especially in metropolitan and/or tourist areas, on hotel occupancy and restaurant services. They have reasonably good potential to raise revenue, low visibility, low administration and compliance costs when collected at the point of production, and they can fulfill policy goals related to the environment or health. These taxes can be attractive because they create little distortion as a result of the low price elasticity of demand; however, in some cases, such as taxes on soft drinks or tobacco, they may be regressive. Moreover their revenue potential may be concentrated geographically in the regions of production. Taxes on the sale of certain inputs, such as fuel and electricity, may increase production costs, with consequent loss of external competitiveness.

Property Taxes

In the literature on traditional fiscal federalism, **taxes on urban and rural immovable properties** are generally presented as the ideal own-source revenues for local governments. They are levied on immobile bases and, therefore, are not exportable. They conform to the benefit principle, as they typically finance local services used by the property owners or their tenants. Property taxes can be mildly progressive if assessed property values are kept reasonably close to current market values. They are generally less cyclically sensitive than income or consumption taxes.

Economists like property taxes much more than taxpayers and politicians do. Real estate taxes are probably the least popular form of taxation in advanced as well as developing countries. This perception may be attributable to the high visibility of the tax, which is typically paid in one or two annual installments and may create liquidity difficulties for some taxpayers. Also, the frequently opaque assessment process opens scope for protracted judicial battles. Further, it is difficult to keep property cadasters updated, resulting in perceptions of horizontal inequities in the assessments.

Property tax bases are typically unevenly distributed across a national territory, with the bulk being concentrated in metropolitan areas. They are among the most difficult taxes to administer properly, especially in developing countries characterized by a high level of informality where, for example, construction occurs without permits, properties are not registered, and real estate transactions are conducted at higher than declared prices. Although technological advances have made property registration and updating of computerized cadasters easier than in the past, progress in these areas has been slow, especially in low-income countries and smaller municipalities. Updating property assessments to reflect changing market values continues to be a challenge worldwide.

Political economy factors often discourage local officials from investing the resources necessary to keep property cadasters current. One possible approach in addressing these challenges is assigning the responsibility for the administration of property cadasters to higher levels of government, while maintaining local control over property tax rates and the enforcement of tax collections. This approach raises difficult issues of incentives in terms of principal–agent relations between the levels of government, and empirical evidence of its effectiveness is, so far, inconclusive.

Local governments frequently levy taxes on movable properties—in particular automobiles. These are easier to administer and less controversial than real estate taxes. In setting rates, tension arises between environmental objectives that argue for lightly taxing recent, less polluting models, and distributional objectives that advocate for taxation based on the value of the car, implying lower taxes on older cars.

Improvement Taxes

Another option for subnational governments is adopting a **property betterment and valorization tax** where local governments charge for improvements to properties that have benefited from public investment. This type of tax is usually a single payment in a specific period of time that covers all or part of the investment. This tax is already legally present in most Latin American countries, but it is rarely implemented because it requires considerable local institutional capacity and the public often resists it. Nevertheless, as seen in Colombia where this instrument has a long history of continuous application, it can be an important source of revenue for local governments.

Financial Transaction Taxes

There are three different kinds of **financial transaction taxes**. The most common is the bank transaction tax, which is normally applied to debits and/or credits of bank accounts and which generally taxes check clearing and cash withdrawals from automatic teller machines and teller windows. On occasion, a bank transaction tax is applied to banks issuing credit cards. The second type is the tax on securities transactions, which is aimed at reducing destabilizing speculation on the stock market. The third tax is one on exchange transactions and operations deriving from them—futures, options, and swaps. This tax aims to discourage speculative international movement of capital. There is significant disagreement in the literature on the merits and costs of such a tax, but it is generally viewed as a potential tax handle for central governments rather than for subnational governments.

Stamp Duties

A **stamp duty** is a tax that is levied on various instruments or written documents—such as checks, receipts, court documents, military commissions, and marriage licenses—and transactions such as land transactions. The rates of stamp duty normally vary among subnational governments. The nature of instruments and transactions subject to stamp duty also vary. The scope of this tax has been reduced in many countries in recent years.

Payroll Taxes

Subnational **payroll taxes** can also play a role in own-source revenue. This type of tax has several benefits in that it is relatively productive and easy to administer, at least when imposed on large enterprises. Nevertheless, it has been widely argued in the literature that payroll taxes act as a barrier to employment and reduce incentives for participation in the formal labor force (Levy, 2010), as well as labor productivity and output (Ahmad and Best, 2012).

Green Taxes

Since many of the negative effects on the environment are localized, **green taxes**, also referred to as environmental taxes, can provide an innovative source of subnational revenue. For instance, subnational governments can effectively use green taxes to tax air pollutants, fuels, and waste products. Furthermore, one of the most interesting green taxes is a congestion charge in cities, whereby tolls are paid to enter congested areas in a city or to access certain routes. This solution provides subnational governments with the means to reduce the negative externalities of traffic, such as congestion, accidents, and pollution. Although the collection of this tax may be limited in the short term, green taxes can help correct externalities and make the development of cities more fiscally and environmentally sustainable.

Royalties

Few aspects of intergovernmental fiscal arrangements are as controversial in practice, although not in theory, as sharing **revenue from non-renewable natural resources**, such as oil, gas, and minerals. Broad consensus in the literature suggests that assigning to subnational governments the bases of these resources, or their revenue, presents important disadvantages. It complicates macroeconomic and fiscal management by the central government and imparts excessive volatility to subnational spending. The concentration of these revenues in a small set of subnational jurisdictions, often on a scale disproportionate to their spending needs and with limited local accountability, can lead to wasteful spending

and corruption. Concomitantly, it can reduce incentives for the beneficiary governments to mobilize other forms of own-source revenue.

The literature recognizes some justification to assign a relatively small share of royalty revenue to the subnational jurisdictions where the natural resources are located to compensate for environmental damage from resource exploitation and for additional infrastructure requirements. These considerations notwithstanding, political economy realities sometimes linked to historical or ethnic factors typically result in assigning significant shares of resource revenue to subnational governments, often on a combination of origin and redistribution criteria.

Charges and Fees

User charges and service fees represent a suitable revenue source for local governments. They can fully or partially recover the cost of services provided by these governments, such as water and sewerage, electricity, parking, garbage collection, and urban public transport, or contribute to financing other services, such as education and health. Charges and fees conform to the benefit principle and are largely non-exportable. Exemptions or reduced rates can address distributional issues. User charges can increase accountability of local officials to their electorate for delivering public services of acceptable quality with minimum waste.

Subnational Borrowing

The extent to which subnational governments should be allowed to borrow depends on the extent to which the borrowing conforms to hard budget constraints and fiscal rules. One of the leading challenges is enhancing creditworthiness for low-income subnational governments as decentralization moves beyond the low-hanging fruit of provincial and large urban areas to increasingly small localities in increasingly lower-income countries. Perhaps the most worrisome issue from a financial management perspective is that subnational borrowing may compromise national fiscal stability, if subnational units borrow excessively, expecting a central government bailout.

Good practice both empowers subnational units to borrow in order to finance sound investments needed for development and establishes rules and constraints to prevent such borrowing from creating debt crises. In recent decades, innovative experiments to facilitate access to credit markets have included pooled-financing schemes for small subnational governments, transfer intercept mechanisms that provide forms of central government collateral and assurances to creditors, and the use of development banks to promote investment. Subnational governments should be given opportunities to borrow, but they also must have hard budget

constraints that force them to demonstrate creditworthiness. Fiscal responsibility laws for subnational governments are a particular form of fiscal rule worth noting, where provisions of these laws envisage sanctions for failure to comply with pre-established rules for fiscal responsibility.

The copious literature on the design of borrowing controls, strengthening market discipline, subnational fiscal rules, and intergovernmental transfers demonstrates that addressing these issues is not easy. The theoretical and practical implementation issues involved, combined with the resistance by politicians at all levels of government to reforms aimed at constraining their discretion in budgetary policies, compound the difficulty of finding robust, durable solutions (Ter-Minassian, 2012).

Promoting Subnational Revenue Mobilization Efforts

Assigning appropriate tax handles to subnational governments is a necessary, but certainly not sufficient, condition to ensure adequate mobilization of own-source revenue. Subnational governments may fail to exploit the revenue potential of their assigned tax bases by levying the taxes at low rates or not at all. Sub-optimization may occur by granting extensive exemptions or other benefits under existing taxes; by not investing in the systems, such as computerized cadasters, required to assess taxes effectively and facilitate payments by taxpayers; or by lax enforcement through inadequate auditing or collection of delinquent tax debts.

The roots of weak efforts to mobilize subnational revenue may reside in political or ideological factors, such as a preference for small government. Frequently, however, such weak efforts reflect flaws in other aspects of the intergovernmental fiscal system, leading to the emergence of soft budget constraints (Ter-Minassian, 2012). When the central government is unable to commit to refusing to bail out a subnational government, it induces the latter not to respect its budget constraint. In the absence of a hard budget constraint, the subnational government increases spending without bearing the full cost of the increase. The soft budget constraint creates incentives to run deficits and accumulate debt—with the expectation of an eventual bailout—and it discourages politically costly efforts to raise own-source revenue.

A number of intergovernmental arrangements can give rise to a soft budget constraint. Central governments' reliance on financial markets to impose fiscal discipline on their subnational governments is ineffectual when the essential preconditions for the effectiveness of such discipline are lacking. "Cooperative federalism" arrangements can prove ineffective in establishing hard budget constraints

for subnational governments when borrowing limits are established through frequent negotiations that open scope for political bargaining. Other conditions that contribute to a soft budget constraint include weak or highly discretionary subnational borrowing control mechanisms, inappropriately designed and/or inadequately enforced subnational fiscal rules, unclear expenditure assignments, and unfunded central government mandates.

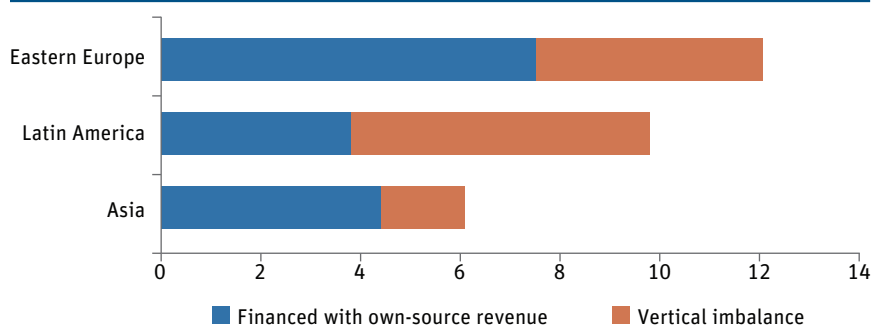
There is broad consensus in the literature that substantial discretion in intergovernmental transfers can create scope for political favoritism and bailout expectations of subnational governments. Therefore, intergovernmental transfers should be based on clear formulas and criteria that subnational governments cannot manipulate and that are easily verifiable.

Trends in Revenue Decentralization in Latin America

Latin America suffers from significant imbalances in fiscal decentralization that constrain local development. As the decentralization process deepened in the region, spending by subnational governments as a percentage of total government expenditures grew from 20 percent in 1985 to about 30 percent in 2010. In contrast, the percentage of own-source revenue collected by these governments remained unchanged at about 10 percent of the national total. This difference between subnational government spending and revenue has created high vertical fiscal imbalances in most economies, creating heavy dependence on transfers from national to subnational governments. Almost two-thirds of subnational revenue is transferred from national governments, which makes subnational government finances more vulnerable and less predictable.

The average vertical imbalance, meaning the gap between subnational spending and own-source revenue, in Latin America is significantly larger than in advanced OECD countries, but also larger than in Eastern Europe and Asia (Figure 1.1). Nevertheless, the Latin American region is heterogeneous in its degree of spending and revenue decentralization (among many other economic and institutional characteristics). In unitary countries (such as Chile, El Salvador, Panama, and Uruguay) that have decentralized fewer spending responsibilities, subnational own-source revenue covers a substantial share of local spending. In unitary countries that have advanced more in spending decentralization (such as Colombia, Bolivia, Ecuador, and Peru), vertical imbalances are high, especially at the intermediate level, and have increased in recent decades. In federal countries, where spending has been substantially decentralized, own-source revenue spans a wide range, from relatively high (Brazil's states) to medium (Argentina) to low (Mexico and Peru) (Figure 1.2).

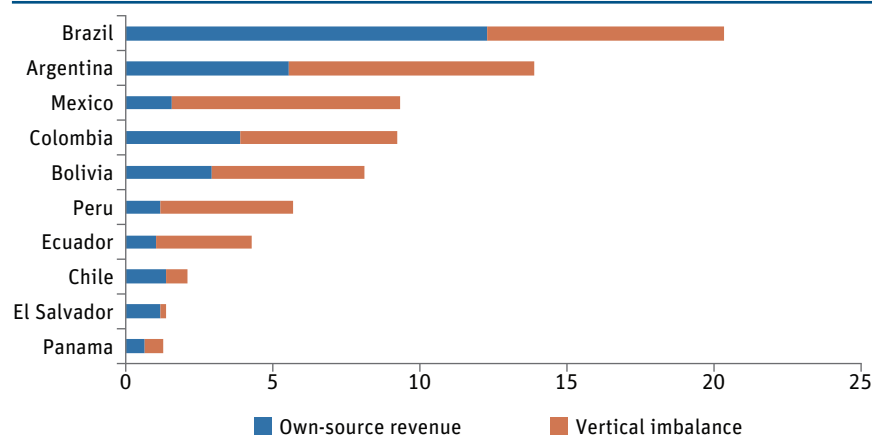
Figure 1.1 Size and Financing of Subnational Government Spending, Selected Regions, 2009 (as percentage of GDP)



Sources: IDB (2012), IMF (2011), and OECD (2010).

Notes: Asia comprises Afghanistan, Azerbaijan, Armenia, Georgia, India (2008), Iran, Israel, Jordan, Kazakhstan, Mongolia, and South Korea. Eastern Europe comprises Belarus, Bulgaria, Croatia, Slovenia, Slovakia, Latvia, Lithuania, Moldova, Poland, Rumania (2008), Czech Republic, Serbia, and Ukraine. Latin America comprises Argentina (2002, local governments), Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Panama (2007), and Peru.

Figure 1.2 Size and Financing of Subnational Government Spending, Latin America, 2000–10 (as percentage of GDP)

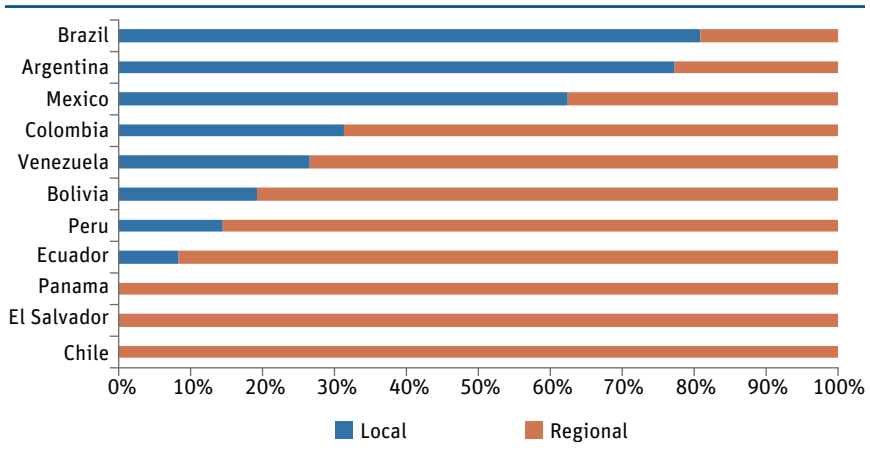


Source: IDB (2012).

Notes: All calculations relate to simple averages. The periods vary for the following countries: Chile (2001–09), El Salvador (2004–07), and Panama (2000–08).

With the notable exceptions of Brazil and Argentina, vertical imbalances generally tend to be larger at the regional than at the local government level (Figure 1.3). This reflects the fact that local governments have well-established revenue sources, such as taxes on real estate and on vehicles, as well as user fees. In contrast, in most Latin American countries, intermediate-level governments

Figure 1.3 Composition of Subnational Own-Source Revenues by Level of Government, 2000–09 (as percentage of total own-source revenues)



Source: Corbacho, Fretes Cibils, and Lora (2013).

Note: All values are period averages.

are often the product of deconcentration, rather than of true decentralization, and depend heavily on transfers from the central government to finance their devolved spending responsibilities.

Vertical imbalances can also vary substantially within countries, depending on economic and social characteristics such as level and sectoral composition of subnational GDP, incidence of poverty, degree of urbanization, and demographic structure. These disparities influence the distribution of subnational tax bases across the country and, depending on institutional and political factors, affect the efforts of individual subnational governments to raise own-source revenue.

The composition of subnational tax revenue in Latin America shows significant differences among countries, but also some common features. Most countries, with the exception of Mexico and Peru, rely heavily on indirect taxes, especially on turnover (Argentina and Colombia), value-added (Brazil), and excises (Colombia and Venezuela). Property (real estate and vehicle) taxes are levied in almost all countries, although—as indicated in the case studies—with varying results. Mexico is the only country that levies a subnational payroll tax (Table 1.2).

The composition of intergovernmental transfers also varies significantly across the Latin American region. Most countries combine formula-based revenue sharing mechanisms with a variety of block or special purpose grants. The weight of the different mechanisms in total transfers, the criteria used to horizontally distribute the shared revenues, and the degree of discretion involved in the

Table 1.2 | **Composition of Subnational Taxes in Latin America, 2000–10 (in percent)**

	Property: real estate	Indirect taxes (economic activity)	Payroll	Property: vehicle	Property transfers	Fuel	Other
Argentina	12.6	64.4	—	6.3	—	—	16.8
Brazil	5.0	84.6	—	5.0	1.6	—	3.8
Colombia	20.8	49.2	—	2.7	—	12.0	15.2
Ecuador	29.4	31.0	—	—	2.3	—	37.3
Mexico	27.6	2.1	39.7	1.8	18.0	—	10.8
Panama	—	59.7	—	—	—	—	40.3
Peru	54.1	15.8	—	7	—	—	23.2
Venezuela	2.3	97.0	—	—	0.2	—	0.5

Source: Authors' elaboration.

grants, vary from country to country. The case studies in this book highlight the impact that the composition of transfers can have on the efforts of subnational governments to mobilize own-source revenues.

Fiscal decentralization continues to be a dynamic process in Latin America. Increased decentralization is detected in the devolution of new responsibilities, including the environment and the fight against poverty, and in the increase in decentralized expenditures in education, health, and other services. Less progress can be observed in the devolution of autonomous revenue sources. A variety of innovations in Latin America merit attention. For example, systems to rank local performance in Brazil and Colombia, per-client based transfers for health and education in Chile, and fighting poverty with direct transfers to families administered by municipalities in Brazil. Numerous countries have embarked on or are considering significant reform that will deepen and strengthen municipal autonomy, such as Bolivia, Uruguay, and Costa Rica.

Fragmentation and sub-optimal size render subnational governments unable to take advantage of economies of scale in delivering public services and in revenue collection. This problem is often aggravated by central government policies that incentivize further fragmentation, such as formulas that ensure fixed amounts of funds to each municipality, regardless of size. The issue of optimal scale of subnational government presents an inherent trade-off between better representation and accountability of smaller jurisdictions, and superior fiscal viability of larger jurisdictions. Thus, the question of jurisdictional size is not only a technical issue, but also one that involves political considerations.

One of the weakest points of many decentralization programs in Latin America has been the lack of clarity in assigning expenditure responsibilities to subnational governments. Typically, the focus is on installing a financing scheme. Lack of clarity in the competencies of the different tiers is often aggravated by the insistence on uniform assignments (as opposed to asymmetric ones that reflect the varied capacities of different subnational units), the practice of unfunded mandates, and the lack of methodologies required to translate assigned responsibilities into expenditure projections.

A consequence of the uncontrolled subnational borrowing and hyperinflation experienced during the 1980s and 1990s is that some countries' policies toward subnational government borrowing have become excessively conservative and restrictive. Thus, a pending challenge is how to increase fiscally responsible subnational borrowing. This will require institutions that effectively regulate and monitor subnational borrowing, without becoming overly restrictive. A second challenge is how to make more credit available to subnational governments for responsible borrowing, which is currently too low to meet the large need for public infrastructure across the region.

In summary, subnational governments across Latin America face a range of structural fiscal challenges. In particular, challenges include strengthening tax capacity and its effective use by local governments, increasing the efficiency of public expenditures and the quality of public services, and finding sustainable ways to fill their often substantial capital infrastructure gaps through a combination of affordable capital transfers from central governments and responsible access to credit.

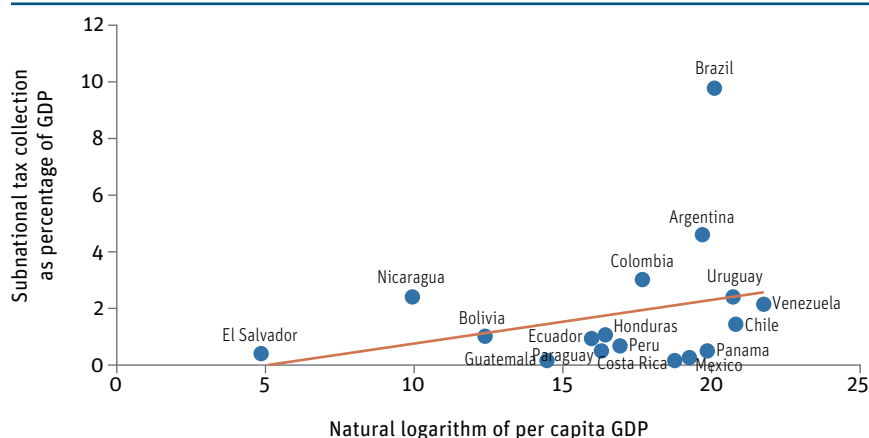
Why Is Subnational Own-Source Revenue Relatively Low in Latin America?

The relatively weak performance of most Latin American countries in raising subnational own-source revenue reflects factors affecting both potential and effort.

The nature of the tax assignments, which are especially limited for intermediate-level governments, and the socio-economic characteristics of local jurisdictions, such as the level of per capita GDP, the relative weight of difficult-to-tax bases (e.g., agriculture and a fragmented retail sector), poverty and income inequality, and labor and real estate informality, together shape the subnational revenue potential in the region.

Subnational own-source revenue collection efforts also vary significantly within and across countries. A comparison of the ratios of subnational tax collections to GDP with per capita GDP (as a rough proxy for revenue potential) in a number of Latin American countries suggests that countries with broadly comparable levels of per capita GDP (e.g., Brazil, Argentina, Uruguay, Chile, and

Figure 1.4 ■ Subnational Tax Collection and Per Capita GDP, Latin America, 2010



Source: Authors' estimates based on IDB (2012), CIAT (2012), and IMF (2011).

Mexico) have substantially different subnational tax burdens. The majority of the region's countries fall below the estimated trend line (Figure 1.4).

Using econometric techniques, such as stochastic frontier analysis or estimating a representative tax system, provides insights into the extent of and the reasons for differences in subnational own-source revenue potential and efforts among and within countries in the region (Box 1.2).

Main Findings of the Country Case Studies

The seven case studies that comprise the nucleus of this book focus on a range of countries characterized by different sizes, levels of development, extent of decentralization, and systems of government (federal or unitary). They also provide detailed insights into the factors that affect revenue decentralization across the Latin American region.

Argentina²

Argentina is a federal country characterized by a substantially higher degree of decentralization of expenditures than of revenues. Intergovernmental fiscal arrangements underwent significant changes over the decade of the 2000s.

² Argentina is a federal state that comprises 23 provinces (intermediate level of government), the Autonomous City of Buenos Aires (intermediate level), and 2,196 municipalities (local level).

Box 1.2 Estimating Revenue Efforts through Stochastic Frontier Analysis

Stochastic frontier models were initially developed to estimate technical inefficiencies in producing a particular output (Battese and Coelli, 1995). The technique was extended to estimating relative tax effort at the national government level for a large panel of countries (Pessino and Fenocchietto, 2010). In the following chapters, case studies use the stochastic frontier technique to analyze inefficiencies in collecting subnational taxes for state (Mexico) and municipal (Colombia, Mexico, and Venezuela) subnational units.

Stochastic frontier models are based on a function of the type

$$Y_{it} = \exp(X_{it}\beta + V_{it} + U_{it})$$

in which two types of errors are assumed to be present: V_{it} and U_{it} . V_{it} represents the random disturbance, independently and identically distributed as $(0, \sigma_v^2)$; U_{it} is the non-positive disturbance, independently distributed of V_{it} and defined as

$$U_{it} = U_i \exp(\eta_i(t - T))$$

Intuitively, stochastic frontier analysis allows the factors responsible for the difference between a municipality's actual and potential revenue collection (which are related to the explanatory variables [the X_{it}] mentioned above) to be separated into two categories:

random: the V_{it} related to the exogenous factors or omitted variables that are beyond the authorities' control

U_{it} : represents technical inefficiencies and/or policy decisions regarding statutory tax rates, incentives, or exemptions that reduce collections

The ratio

$$\frac{Y_{it}}{[f(X_{it}; \beta) + V_{it}]}$$

represents the effort or efficiency of subnational unit i in collecting the tax in question.

Particularly important has been a recentralization of revenues as a result of changes in the composition of taxes that have favored the federal government. There have also been important changes in the provinces' own-source revenues.

High international prices of oil, gas, and minerals have provided provinces rich in such resources with substantial windfalls in royalties.

The relatively heavy dependence of Argentina's subnational governments on transfers, especially discretionary ones, is widely recognized as a source of soft budget constraints, aggravated by a history of repeated bailouts of provinces by the federal government. Despite buoyant revenue, most provinces have received federal bailouts in two forms:

- The underestimation of official inflation since 2007, which has reduced the real value of the provinces' debts
- The replacement of debt with long-term loans with a low nominal interest rate by the federal government in 2009, which implied a substantial reduction of the net present value of the debt

The revenue potential of the individual Argentine provinces correlates positively with development indicators such as provincial per capita GDP, the populations' average years of education, and the ratio of bank deposits to GDP. The potential negatively correlates with the incidence of poverty and the composition of output. Revenue efforts are found to vary significantly across provinces and over time. An analysis of the impact of federal transfers on provincial own-source revenue suggests that provinces react differently to the different types of transfers. Automatic transfers are spent, thereby increasing demand, as well as the bases and revenues of some provincial taxes. This reaction is consistent with a permanent income shock. Discretionary transfers, on the other hand, are seen as temporary income, and provinces use them to increase capital expenditures and to reduce own-source taxes, in particular the politically costly property taxes. Tax cuts can be reversed later, if changing political conditions (or shortages of central budgetary funds) force the discretionary transfers from the federal government to be reduced.

Bolivia³

Pending full implementation of the provisions of the Constitution of 2009, Bolivia remains a unitary state with two levels of subnational government: prefectures and municipalities. Despite having the lowest per capita GDP in South America, Bolivia exerts an overall tax effort above the regional average and has a relatively large public sector. With respect to expenditures, Bolivia is relatively

³ Bolivia is a unitary country that comprises 9 prefectures (intermediate level of government) and 339 municipalities (local level).

decentralized, although measuring the degree of decentralization is difficult and controversial. The various sources of data are neither consistent nor complete, particularly with reference to the consolidation of operations between the two levels of government.

The recent constitution confirmed the tax assignments for municipalities, while strengthening their tax regulatory powers. The intergovernmental system is characterized by a deep vertical imbalance. Transfers represent almost the totality of revenue for prefectures and more than two-thirds for municipalities. Municipal own-source taxes are equivalent to roughly 17 percent of expenditures and are highly concentrated in property taxes on real estate and vehicles. For the municipalities, the main challenge is expanding the collection of existing taxes, which will require not only better tax administration, but also greater efficiency in providing basic services and infrastructure to promote economic development and citizen compliance.

Taxes on gas and oil constitute a third of total tax revenue and are highly sensitive to fluctuations in international prices. This creates special vulnerability for the prefectures, which depend entirely on natural resource rents and have no tax autonomy. Reforming the system of financing the prefectures by assigning them significant tax bases is a high priority in ensuring smooth functioning of their spending responsibilities.

Brazil⁴

Compared to the rest of Latin America, Brazil is characterized by a high degree of revenue decentralization at the state level. In contrast, municipalities rely more heavily on transfers from higher levels of government. Although the states' reliance on own-source revenues in principle has advantages in terms of increased accountability to the electorate and greater conformity with local preferences, in practice the current state tax system is fraught with serious flaws that adversely affect efficiency, equity, and competitiveness. The main problem is that state finances rely on a mixed-origin/destination-based VAT, with a large dispersion of rates across national territory, which has led to predatory tax competition. Efforts to shift to a more neutral destination-based VAT, with a uniform base across the nation, have been stymied by states that would lose revenue.

In Brazil, intergovernmental transfers also suffer from important shortcomings. For example, the design of the mandatory revenue-sharing arrangements and the degree of earmarking to specific expenditure programs generate

⁴ Brazil is a federal country that comprises 26 states and a federal district (intermediate level of government) and 5,564 municipalities (local level).

significant efficiency costs and compound the already high degree of budget rigidity. A further problem of the revenue-sharing regime is the fact that distribution among states has been fixed for more than 20 years, in contravention of a constitutional requirement that the formula change over time to reflect the relative capacities of recipient governments. A Supreme Court ruling opened a window of opportunity to reconsider and rationalize the main revenue-sharing mechanisms of the states; however, the reform approved by Congress in 2013 is minimal and fails to seriously address the shortcomings of the system.

Colombia⁵

Fiscal decentralization has proceeded at different speeds at the departmental and municipal levels in Colombia during the past 15 years. Municipal governments have almost doubled their own-source revenue in terms of GDP, whereas departmental governments have generated few additional own-source revenues. The main explanation for such divergent trajectories is the difference between the tax bases of municipalities and departments. While municipalities enjoy a dynamic and growing tax base that encompasses urban and rural properties and urban economic activities, the departmental tax base consists primarily of non-merit goods and is relatively inelastic.

The 1991 Constitution ushered in a new phase of decentralization that substantially changed subnational governance and finance. The constitution introduced a formula-based system of transfers, in which the central government shares current revenue with departments and municipalities for a prescribed list of social spending. Trends in departmental and municipal spending have increased in relation to GDP, in accordance with their growing responsibilities for providing public goods and services financed with transfers from the central government. This increasing financial dependence on the central government is likely to reduce incentives to fulfill the main objectives of the decentralization process, namely responsiveness to the needs of the population and efficiency in providing public goods.

A stochastic frontier analysis shows that, in general, efficiency and effort rates are higher for the larger and more developed municipalities. Per capita revenue of municipal property taxes correlates positively with per capita municipal GDP and the degree of urbanization. However, factors related to revenue efforts (e.g., delays in updating property cadasters) also play a role in explaining differences in the revenue performance of smaller municipalities.

⁵ Colombia is a unitary country that comprises 32 departments (intermediate level of government), and 1,098 municipalities and 4 special districts (local level).

The analysis of efficiency rates for the municipal transactions-based industry and commerce tax (ICA) suggests that efficiency is positively correlated with the degree of urbanization, the share of services in municipal output, and an indicator of relative capacities of municipal bureaucracies. This means that ICA efficiency rates are typically higher in the larger and more developed municipalities. Interestingly, central government transfers positively correlate with ICA rates, suggesting that transfers may incentivize fiscal effort and efficiency by local governments when local authorities perceive that the marginal cost of providing a local public good partially financed with transfers is lower than its marginal benefit. Moreover, transfers may raise local economic activity, which may positively affect ICA revenue and, hence, increase effective ICA rates.

*Mexico*⁶

Over the 2002–12 period, Mexican federalism has undergone a series of important reforms intended to increase revenue mobilization efforts at the state level by enhancing tax handles and the incentives embodied in the formulas for intergovernmental transfers. The reforms sought to enhance subnational revenue, strengthen state and local accountability and transparency, and more generally modernize Mexico's intergovernmental fiscal relations.

However, despite these reforms, states' own-source revenue has remained around the long-term average of 1 percent of GDP. The picture that emerges is one of caution when making use of assigned tax handles. States have largely left some significant tax handles unexploited, and outright rejected others, probably due to their high political visibility and costs.

Another important characteristic of state and municipal tax collection in Mexico is the marked heterogeneity in revenue performance. Whereas there is a positive correlation between GDP and state tax collection in per capita terms, there is no clear correlation with the composition of GDP. There is also a positive correlation between collections and the share of population living in urban areas. Similarly, a negative correlation exists between tax collections in per capita terms and the poverty index. Poor rural regions collect less in per capita terms, reducing the public resources available to promote development, which in turn generates a vicious cycle of low tax collections.

A key factor that seems to be central to this subpar fiscal effort is the inability of states to obtain transfers from the federal government, particularly those linked to education. The growing political relevance of governors, an incomplete and

⁶ Mexico is a federal country that comprises 31 states and a federal district (intermediate level of government) and 2,440 municipalities and 16 delegations (local level).

unclear decentralization of education, along with a lack of transparency of subnational borrowing, seem to be the key factors in softening the budget constraints of the states. The road to improving the design of Mexico's fiscal architecture is long, but the accumulation of significant reforms between 2002 and 2012 should yield some positive results in coming years.

Peru⁷

The current fiscal decentralization process in Peru began in 2002, with constitutional and legislative reforms that placed decentralization at the center of national and subnational political agendas. By 2011, intermediate and local governments were responsible for more than 18 percent of total public expenditures. At the local level, with few exceptions, current tax assignments roughly follow best international practices, thus possible reforms should focus on improving efficiency. Nonetheless, important aspects remain problematic and require additional reform. Most subnational governments currently do not collect sizeable own-source revenue, which reflects the nature of current assignments, the distribution of tax bases, the lack of administrative and technical capacity, and the desire of subnational officials to avoid the political and economic costs of collecting own-source revenue.

Most subnational governments are highly dependent on intergovernmental transfers. These transfers do not correct the large differences in fiscal capacity among subnational governments, but rather tend to aggravate them. Several departments and metropolitan areas show evidence of a heavy concentration of the tax bases. Significant differences in estimated revenue efforts of municipalities are also evident, but there is no systematic pattern for such differences. On the other hand, the lack of tax instruments assigned to the regions limits their own-source revenue as well as their attendant fiscal autonomy and accountability.

The problems of subnational revenue mobilization should be addressed together with those of the unequal distribution of fiscal resources caused by the current arrangements for revenue sharing from extractive industries on an origin (derivation) basis. Apart from its obvious costs for cohesiveness of society on equity grounds, the current extent of inter-jurisdictional inequalities in Peru also imposes efficiency costs. Improving revenue mobilization in Peru requires a holistic approach, in which equity and efficiency are addressed simultaneously, and subnational governments acquire both the ability and the incentives to maximize the collection of their own-source revenue.

⁷ Peru is a unitary country that comprises 25 regions and the Lima Province (intermediate level of government) and 1,838 provincial and district municipalities (local level).

Venezuela⁸

Venezuela provides a good illustration of the deleterious effects of oil price volatility on the macroeconomic policies and performance of major oil-producing countries. Volatility has been a constant feature of Venezuela's macroeconomic variables, which is reflected in national revenue and, given current intergovernmental arrangements, in the revenues of subnational governments. Approximately 70 percent of subnational revenue derives from revenue sharing and other transfers from the central government. Subnational governments cannot easily absorb high volatility, since they have less access to alternate financing sources and at the same time are responsible for the ongoing delivery of essential social services.

Decentralization in Venezuela was largely a political response to a loss of legitimacy of the national political system and of an economic system based almost exclusively on the distribution of oil revenue. The activation of the federal system, with direct election of governors and the creation of mayors in 1989, was instrumental in reshaping political institutions. Despite subsequent efforts to increase the central government's powers, the main political features of decentralization remain largely unchanged.

Fiscal decentralization, however, has not accompanied political decentralization, and the bulk of the subnational governments' resources continue to come from central government transfers. Own-source revenue accounted for only 4 percent of total state revenue and 51 percent of municipal revenue on average from 1998 through 2007. There are very large differences among municipalities based on population and economic variables. The stochastic frontier analysis linking own-source revenue collection of municipalities to household incomes, as a proxy for the tax base, estimates the average efficiency and effort of municipalities at around 40 percent. This suggests that there is significant room to improve the performance of municipal own-source revenue collection without introducing new taxes. The analysis also finds a weak positive correlation between tax bases and estimated tax efficiencies, suggesting that larger and richer municipalities tend to be more efficient at collecting taxes.

Reducing the dependence of subnational budgets (especially at the intermediate level) on the volatile transfers by mobilizing less cyclically sensitive own-source revenues could have significant benefits for fiscal management and service delivery. It would increase the accountability of subnational officials to their electorate. Finally, increased own-source revenue at the subnational level would help

⁸ Venezuela is a federal country that comprises 23 states (intermediate level of government) and 335 municipalities (local level).

raise the overall non-oil tax ratio, which is very low compared to countries at a similar level of development.

Reform Priorities

As highlighted in the previous section, subnational own-source revenue systems in Latin America differ significantly with regard to the level of the tax burden, the distribution among the different types of intermediate and local governments, the weight of different taxes and their effects on productive efficiency and equity, and the effectiveness of their administration. These differences argue for different reform priorities in different countries.

Increases in the subnational tax burden would contribute to increasing the overall national tax ratio to fund increased spending and reduce reliance on volatile and exhaustible revenue from non-renewable natural resources in countries such as Mexico and Venezuela. In countries with relatively high overall tax burdens, such as Brazil and Argentina, an increase in subnational taxes should be matched by a reduction in central taxes to avoid further increases in the tax burden. In all cases, however, increasing revenue autonomy should enhance subnational political accountability and fiscal responsibility, and promote a closer reflection of local preferences in the tax structure.

The design of revenue-enhancing subnational tax reform should consider efficiency and equity objectives, as well as political and administrative feasibility. Reforms should also consider the balance among potentially conflicting objectives, country-specific circumstances as relates to revenue needs, the extent of pre-existing distortions, social preferences for redistribution, capacity of tax administrators, balance of political power, and constitutional constraints.

In most Latin American countries, there is scope for revenue-neutral reforms of subnational taxes that could reduce obvious distortions and horizontal or vertical inequities, strengthen enforcement, and improve taxpayer compliance. The policy options for reform discussed below draw on the findings and conclusions of the country case studies presented in the following chapters.

Exploiting Existing Subnational Taxes

The above-mentioned evidence of significant inefficiency and weak effort of subnational governments to exploit their existing tax assignments suggests that numerous reform options to improve performance exist, without resorting to new taxes, especially at the local level. One possible approach is to increase statutory tax rates that are below the average or below the ceiling set by the central government. A corollary step is for central governments to set floors to the

subnational rates, which would help reduce “fiscal laziness” and predatory competition among subnational governments.

Improvement in subnational tax administration is essential. Peru offers an effective example of creating modern, semi-autonomous tax agencies in departments and large metropolitan areas. Argentina, Brazil, and larger Colombian cities show the scope for modernization of systems and procedures in existing subnational tax agencies. Brazil illustrates progress on the systematic exchange of information among national and subnational tax authorities by synchronizing taxpayer registries and introducing electronic invoices for transactions subject to the state VAT. Central governments can play an important role by providing technical and financial support to subnational tax administrations that are trying to modernize, as demonstrated in Brazil and called for in the Venezuela case study.

Improvements in property tax administration depend on the modernization of cadasters, including application of new technologies to identify and classify properties, maintain electronic records, update assessed property values more frequently, and provide greater transparency. Bogota, Colombia, offers a good example of integrating the cadaster with other administrative databases, and using self-assessment procedures. Other improvements include facilitating tax payments through the internet or the banking system, improving response time by fiscal authorities to delinquent tax payments, and increasing the use of betterment levies to capture increases in property values that reflect local infrastructure investments. Small local governments with weak administrative capacity could assign the management and modernization of the cadaster to a higher level of government on an agency basis. In other words, the roles and responsibilities of the different government levels could be clearly specified.

Another important step in improving subnational own-source revenue is to increase the application of user charges, which are typically under-exploited throughout the Latin American region.

While there is no dearth of policy instruments to strengthen subnational own-source revenue efforts in Latin America, it cannot be emphasized enough that subnational governments require adequate incentives to use them. Foremost among such incentives is hardening the subnational budget constraint by strengthening borrowing controls, consistently refusing to bailout subnational entities from self-induced financial difficulties, and minimizing discretion in intergovernmental transfers.

Assigning New Tax Bases to Subnational Governments

New tax bases are a particularly relevant option for intermediate-level governments in Bolivia, Colombia, Peru, Mexico, and Venezuela, which have little or no

own-source revenue. The assignment can be exclusive or shared with the central government. The pros and cons of various options reflect both the theoretical considerations outlined above and relevant features of the Latin American context.

A subnational personal income tax or a surcharge on a national personal income tax faces significant obstacles to successful implementation in the current economic and institutional context of the region's countries. National personal income taxes are essentially empty shells in most Latin American countries, as they have relatively high thresholds, generous deductions, and exemptions on important types of incomes, such as interest, dividends, pensions, and capital gains. As a result, revenue is low and horizontal inequities are significant.

Moreover, the pervasive incidence of informality erodes components of the tax base such as wages, income from self-employment, and rent. The relative complexity of tax administration further weakens enforcement at the national level and, by extension, would render a stand-alone subnational personal income tax an unrealistic option for most subnational governments. Thus, in most Latin American countries, this option should await a highly desirable strengthening of national personal income tax before being considered substantial own-source revenue for intermediate governments, and possibly large metropolitan areas.

The case studies document the difficulties of effectively administering a general retail sales tax on goods and services in countries typically characterized by a very fragmented retail distribution sector. Where an effective regime for taxation of small and medium enterprises exists, intermediate and local governments could levy a surcharge on the national tax paid under such regimes.

The desirability and feasibility of introducing subnational VATs or surcharges on the national VAT differ significantly across countries. The Peru case study argues against it, especially in light of the difficulties associated with taxing inter-regional trade. On the other hand, the Colombia, Mexico, and Venezuela case studies argue that a surcharge on the national VAT would be feasible, with the central government acting as a clearing agent, along the lines of the Harmonized Sales Tax in Canada. The Bolivia and Peru case studies also consider the option of introducing a tax on the value-added of individual enterprises calculated using the subtraction method, along the lines of the Italian IRAP.

All case studies see scope for increasing excise taxation. The Bolivia and Venezuela case studies estimate additional revenue that could be obtained from excises on tourism, electricity, and fuel products. The Peru case study discusses adopting subnational environmental "green" taxes and fees.

Efficiency-Oriented Reforms

Opportunities exist for revenue-neutral reforms of existing subnational taxes, such as the *Impuesto a los Ingresos Brutos* in Argentina or the *Imposto sobre Circulação de Mercadorias e Serviços* (ICMS) in Brazil.

Argentina

The Argentina case study discusses the significant efficiency costs that resulted from cascading under the current turnover tax. It also explores the option of replacing the turnover tax with a provincial surcharge on the federal VAT collected at origin but with the proceeds redistributed on a destination basis through a federal government clearinghouse. The study estimates that a 7.1 percent surcharge on the federal VAT would be required to maintain equal revenue, but there would be important differences by province. Specifically, six provinces would match current collections with a surcharge rate lower than 6 percent, but six other provinces would need rates higher than 9 percent to maintain their collections.

The winners under a common rate would be poor provinces that receive large transfers from the rest of the country, and about half of the losers would be oil-producing provinces that would lose this easy-to-tax base when taxation is shifted from production to final consumption. Significantly different provincial rates would likely create problems for border transactions and might be complicated from a political perspective. Therefore, some compensation financed by the rest of the country would be necessary for the losing provinces, likely through amendments to secondary distribution provisions of revenue-sharing arrangements. This would probably require a complete overhaul of the transfer system, which seems unlikely to be approved in the foreseeable future.

A less ambitious but more feasible option would be to improve the turnover tax by eliminating some of the distortions generated by tax decisions in recent years. To be credible, this would require an agreement with the provinces, similar to those signed in the early 1990s, under the umbrella revenue-sharing system, but with financial penalties for noncompliance.

Brazil

The Brazilian case study documents the distortions created by the mixed-origin/destination-based ICMS, which currently accounts for approximately two-thirds of total state revenue. The base of this tax is represented by value-added in the production of goods and selected services, with the taxation of other services assigned to the municipalities. Since the services sector has been the most dynamic in the Brazilian economy in recent decades, excluding most services from the ICMS base has significantly dampened the growth of the tax.

The ICMS rate structure weighs heavily on fuel, electricity, and telecommunication services, which together account for around 40 percent of its revenue. The burden of the tax on these important inputs into production processes undermines efficiency and competitiveness. Although the tax is supposed to be refunded for exports and investments, the crediting mechanism for interstate sales does not work well in practice, further undermining competitiveness.

The tax has been used as an instrument for predatory competition among the states by granting incentives, exemptions, and various other nontransparent special benefits to attract enterprises to the state (the fiscal war). Finally, the wide differences in bases, rates, and collection and enforcement procedures across states substantially increase taxpayer compliance costs, especially for enterprises operating in multiple states.

Recognition of these flaws has led to a number of reform attempts in recent years. The main obstacles to successful implementation have been that a shift to a destination base would entail significant revenue gains and losses for different states, and would eliminate the scope for fiscal competition among them.

The case study identifies a package of first-best reforms that would involve a uniform base across the national territory with a provision for phasing out existing taxes over a reasonable transition period. The rate schedule for the state VAT would be allowed to vary across states within a narrow band. State tax collection would occur on an origin basis and distribution would occur on a redistribution basis through a clearinghouse mechanism, facilitated by electronic invoices and implementation of the uniform taxpayer register. Harmonization of procedures to administer the tax among the states would minimize taxpayers' compliance costs. Finally, reform of the ICMS should include absorption of the municipal tax on services and should be accompanied by reform of the indirect taxes and contributions at the national level to eliminate their remaining cascading effects.

There does not appear to be political appetite for a first-best comprehensive reform at this time. Recognizing this reality, in recent years, the federal government has shifted its effort toward promoting a partial reform of the ICMS to reduce the interstate rate to approximate a move to the destination principle. The government has coupled this reform with a compensation mechanism for the states that would lose revenue. However, even this reduced agenda has, so far, not proven successful.

Conclusions

Substantial reliance by relatively well-off intermediate and local governments on own-source revenue is especially important in promoting fiscal responsibility,

political accountability of subnational officials to their electorate, and thus efficiency in subnational spending. It can also help mobilize additional resources to finance key public goods and services. Although there are significant economic, institutional, and political obstacles to revenue decentralization, much has been learned in recent decades from both theoretical analyses and countries' experiences about a sound design of subnational own-source revenue handles and about how to encourage subnational governments to adequately exploit them.

On average, the Latin American region (albeit with significant differences across countries) lags behind some of the other regions in revenue decentralization. This is especially of concern because Latin America has advanced rapidly in expenditure decentralization under the pressures of democratization and urbanization. Subnational governments in Latin America, especially at the intermediate level, depend excessively on transfers from the central government, with adverse consequences for fiscal responsibility, socially sensitive public services, and political incentives to provide such services at an acceptable standard of quality and efficiency.

The case studies in this book, which span a range of countries of different sizes, levels of development, extent of decentralization, and systems of government, provide interesting insights into the factors holding back revenue decentralization in the region.

At the intermediate level of government (with the notable exception of Brazil), there is a need to revisit revenue assignments to provide more meaningful powers to raise own-source revenue. Potential tax handles include regional surcharges on the national personal income tax (especially if the tax is strengthened at the central government level), retail sales taxes, regional excises or surcharges on national excises, and a subtraction-type VAT. More debatable is the appropriateness of a regional surcharge on the national VAT, particularly in view of the problems connected with the treatment of interstate trade.

For local governments that already have appropriate revenue handles (such as property taxes), reform efforts must focus on strengthening both capacities and efforts to better utilize these handles. This involves not only investments in building and maintaining effective property cadasters, but also avoiding the erosion of the property tax base through exemptions, moving statutory rates toward the upper limit of permissible ranges set by the central government, and strengthening enforcement.

More generally, given the political cost for subnational governments of increasing the burden of taxation on their populations, incentives must be created for them to better exploit their revenue potential. These incentives crucially depend on the hardness of the subnational budget constraint. Intergovernmental

transfers that are largely discretionary, or formula-based, but susceptible to manipulation by the subnational governments through strategic behaviors, loose or mostly discretionary borrowing constraints, and inadequate transparency of subnational budgetary operations all contribute to softening the budget constraint and thus weakening revenue efforts, as well as incentives to spending efficiency.

A sound intergovernmental relation system must recognize that, even if subnational efforts are broadly appropriate, the distribution of revenue capacities within a country is typically quite uneven and frequently does not match the distribution of spending needs. Therefore, reforms to strengthen mobilization of subnational own-source revenue must be accompanied by introducing or improving transfer systems to equalize, to the extent feasible, revenue capacities and spending needs. While in current Latin American conditions, data and budgetary resource limitations substantially constrain the extent of equalization achievable, it is important to continue trying to improve as much as possible the design of equalization-oriented transfer mechanisms in the region.

Through policy and administrative reforms, central governments have a key role to play in supporting the efforts of subnational governments to mobilize own-source revenue. Unfortunately, central governments are often a major obstacle in this respect because of fears of loss of fiscal control, political bargaining power, and bureaucratic influence. We hope this book will contribute to sensitizing national policymakers in Latin America to the benefits of sound revenue decentralization.

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Two to Tango: Argentina's Vertical Imbalance and Revenue Mobilization

2

ARGENTINA IS A FEDERAL COUNTRY CHARACTERIZED BY A SUBSTANTIALLY HIGHER DEGREE OF DECENTRALIZATION OF EXPENDITURES THAN OF REVENUES.¹ IN 2011, THE own-source revenue of provinces (intermediate level of government) and municipalities (local governments) was equivalent to 7.5 percent of GDP but covered only half of subnational primary government spending. The resulting vertical imbalance is filled by an automatic revenue-sharing system and by discretionary transfers.²

Intergovernmental fiscal arrangements have undergone significant changes over the past decade or so. Particularly important has been a recentralization of revenue as a result of changes in the composition of taxes that favored the federal government and because in every year since 2003 the federal executive has passed a budget underestimating revenue. Using emergency powers granted by Congress to the Executive in 2002, the president was able to allocate the excess revenue at will. Thus, discretionary transfers rose from the equivalent of 0.5 percent of GDP at the end of the 1990s to an average of 2.1 percent of GDP in more recent years.

There have also been important changes in the provinces' own-source revenues. As a result of high international prices of oil, gas, and minerals, provinces rich in such resources have enjoyed a substantial windfall in royalties, which roughly doubled from 0.3 percent of GDP in 1997–99 to 0.5 percent in 2011. Also, most provinces have experienced changes in the composition of their own-source

¹ This chapter is an abridged and edited version of Artana et al. (2012).

² Local governments receive a fraction of their province's own-source and shared-tax revenue. See López Murphy and Moskovits (1998) and Sanguinetti, Sanguinetti, and Tommasi (2001) for an analysis of provincial revenue-sharing schemes.

revenue, with the share of the property tax declining and that of the turnover tax increasing. This change reflects not only the difficulty of keeping up with the rise in property prices, but also the visibility and unpopularity of property taxes.

Finally, and despite buoyant revenue, most provinces received new federal bailouts in two ways. First, the underestimation of official inflation since 2007 has reduced the real value of the provinces' debt. Second, in 2009, the federal government replaced the inflation-linked debt of some provinces with long-term loans. The loans had a grace period and a 6 percent annual nominal interest rate. In light of the country's high inflation, these loans implied a substantial reduction in the net present value of the debt.

The relatively heavy dependence of Argentina's subnational governments on transfers, especially discretionary transfers, is widely recognized to be a source of soft budget constraint, aggravated by the history of repeated bailouts of provinces by the federal government (FIEL, 1993, 2003; Fedelino and Ter-Minassian, 2009; Weingast, 2006; Nicolini et al., 2002; Ahmad and Brosio, 2008) and by a lack of transparent criteria for the secondary distribution of federal taxes among provinces (FIEL, 1993; Tommasi, 2002). The lack of incentives for political actors to strike cooperative agreements (discussed further below), and the federal government's inability to make credible commitments to no bailouts, have led subnational governments to focus their efforts on extracting more and more resources from the federal government, rather than on mobilizing own-source revenues or better managing their spending. While many studies show that the large vertical imbalance of Argentine provinces is associated with high per capita expenditures and weak fiscal performance (FIEL, 1993; Jones, Sanguinetti, and Tommasi, 1999), so far only a few studies have attempted to estimate its impact on efforts to raise own-source revenue.³

This chapter aims to provide an up-to-date overview of Argentina's subnational revenue system; of the economic and political determinants of its main features, in particular subnational revenue effort; and of options for its reform. First we review recent developments in subnational revenue and in the vertical imbalance. Then we analyze the income elasticity of subnational revenue as well as the

³ Jones, Sanguinetti, and Tommasi (1999) found evidence that provinces improved their collection of own-source revenue during the 1990s when they realized that the Currency Board tightened the federal government's budget constraint. Baldrich (2010) found that a province's own-source revenue is positively related to the size of its population, per capita GDP, and income distribution, and negatively related to the discretionary transfers it receives from the federal government.

effects of the 2001–02 macroeconomic crisis and of increased federal transfers on the size and composition of provincial taxes. We find that only the discretionary component of transfers discourages the provinces' own-source revenue effort. Next we discuss political economy constraints on subnational revenue reforms in Argentina. Against this background, we explore options to mobilize additional subnational revenue and to reform the distortive provincial turnover tax.

The Evolution of the Subnational Revenue System in Recent Decades

Argentina has witnessed a substantial (over 14 percentage points of GDP) increase in the size of government over the past two decades, with overall public spending rising to more than 42 percent of GDP by 2011. Over the same period, a significant decentralization of expenditures has taken place, with the share of provincial in total government spending rising by 4 percentage points to 40 percent, while that of local spending has decreased by around 0.5 percentage points to 8 percent. In contrast, the shares of provincial and local governments in total general government revenue have declined by around 3 percentage points.⁴

In practice, tax assignments differ significantly from those envisaged in the constitution, which assigned taxes on foreign trade to the federal government, direct taxes to the provinces, and indirect taxes to be shared between the two levels of government. Currently, the federal government defines and administers most taxes. The main provincial own-source tax revenues⁵ are a cascading tax levied on the turnover of enterprises (turnover tax), and taxes on real estate and automobiles. In addition, the provinces collect various types of non-tax revenues and royalties from mineral resources (Table 2.1).

Table 2.1 shows the changes in composition of federal and provincial revenue from 1997 to 2011. It highlights the jump in revenue from federal taxes on exports and financial transactions, which for the most part are not shared with the provinces.⁶ In addition to macroeconomic and fiscal imperatives in the aftermath of the

⁴ Given the limitations and weaknesses of available data on local government finances in Argentina (Artana et al., 2012), this chapter focuses mainly on provincial finances.

⁵ Own-source revenues here are defined as those for which the provinces have full responsibility for defining the base and rate structure and for administering the tax.

⁶ During the 2001–02 macroeconomic crisis, a tax on financial transactions and an export tax were reintroduced. Taxes on exports were not shared with the provinces until 2008, when a small share of revenue from the export tax on soybeans was distributed among the provinces. The federal government also receives a larger fraction of the tax on financial transactions than of other taxes.

Table 2.1 Federal and Provincial Revenues, 1997–2011
(as percentage of GDP)

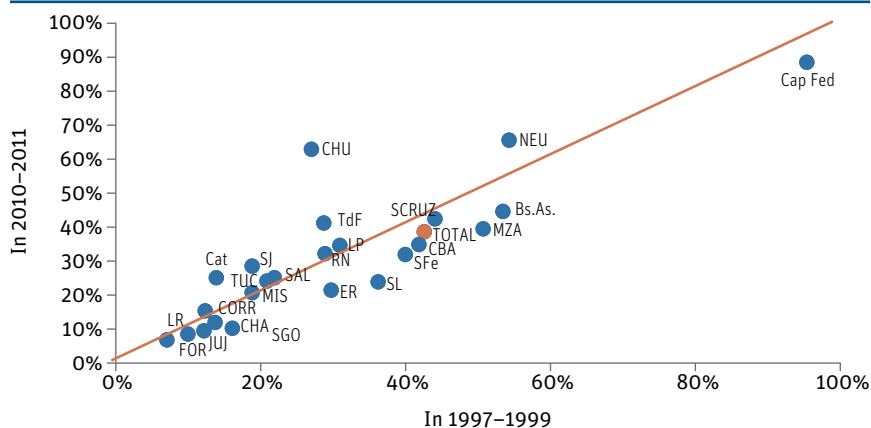
	Average 1997–99	Average 2007–09	2011
Federal taxes	17.10	26.37	29.56
Value-added	6.66	7.56	8.10
Excise	2.03	1.66	1.67
Personal assets	0.21	0.33	0.32
Income	3.22	5.30	5.97
Social security	3.67	5.53	7.43
Export	0.01	2.97	2.93
Imports	0.90	0.81	0.80
Financial transactions	0.00	1.87	1.96
Other	0.34	0.37	0.42
Provincial taxes	3.87	4.48	5.01
Turnover sales	2.15	3.24	3.79
Real estate	0.63	0.39	0.32
Automobile	0.32	0.26	0.27
Other	0.74	0.59	0.62
Other provincial revenues			
Shared federal taxes	5.73	6.79	7.27
Federal transfers	0.46	1.69	2.11
Other provincial own-source revenues	1.49	1.40	1.20
Royalties	0.29	0.59	0.47
Memo items			
Provincial total revenue	11.20	14.35	15.68
Provincial expenditures	11.91	14.92	16.64
Provincial deficit	0.72	0.57	0.96

Source: Authors' calculations based on data from the Ministry of Economy.

2001–02 macroeconomic crisis, the recentralization of revenue reflected a changing political equilibrium between the federal government and the provinces.⁷

Provincial own-source revenue rose by the equivalent of 0.8 percent of GDP during the same 15-year period, while expenditures increased by 4.7 percent. Thus, the vertical imbalance increased on average, but with significant variations

⁷ The federal government gained political strength through the extensive use of the emergency powers it was granted in the aftermath of the crisis. These emergency powers have not been rescinded in spite of high economic growth in recent years.

Figure 2.1 Provincial Own-Source Revenues Over Total Expenditures

Source: Authors' calculations based on the Ministry of Economy.

Notes: City of Buenos Aires (CapFed), Buenos Aires (BsAs), Catamarca (Cat), Córdoba (Cba), Corrientes (Corr), Chaco (CHA), Chubut (CHU), Entre Ríos (ER), Formosa (For), Jujuy (Ju), La Pampa (LP), La Rioja (LR), Mendoza (MAA), Misiones (MIS), Neuquén (Neu), Río Negro (RN), Salta (SAL), San Juan (SJ), San Luis (SL), Santa Cruz (SC), Santa Fe (SFe), Santiago del Estero (Sgo), Tierra del Fuego (TdF), Tucumán (Tuc).

across provinces (Figure 2.1). In particular, the imbalances in some of the oil-producing provinces that collect royalties declined as a result of the increase in the prices of crude oil and natural gas. On the other hand, the dependence on federal transfers of the five richest provinces increased. The higher vertical imbalance was filled with more automatic transfers through the different tax-sharing agreements and especially with increased discretionary transfers, which almost quadrupled as a percentage of GDP (Table 2.1).

The composition of provincial taxes changed as well, with a substantial increase in revenue from the turnover tax and a decline in revenue from property taxes. The fact that provincial turnover taxes rose much faster than the federal VAT, while provincial property taxes increased more slowly than the federal tax on personal assets suggests that the change in the composition of provincial taxes was more the result of policy decisions than of developments in tax bases, which are broadly similar at the two levels of government. The change was facilitated by the fact that the 2001–02 macroeconomic crisis brought to an end several fiscal agreements that were signed between the federal government and the provinces during the 1990s. In particular, the provinces regained freedom to set the rates and bases of the turnover tax and abandoned the path of gradual reduction of the tax rates for primary production and manufacturing that had been agreed to in the early 1990s to reduce the cascading effect of the tax.

Main Features of Subnational Own-Source Revenue

Table 2.2 shows the composition of provincial revenue in 2009, expressed as a percentage of estimated provincial GDP. The data are also grouped according to the level of development and population density of each province. The degree that a province depends on federal transfers is negatively correlated with its level of development and its population density. This is a consequence of the horizontal distribution formula for automatic federal transfers favoring poor and sparsely populated provinces. For example, automatic federal transfers averaged only 3.8 percent of the GDP of the advanced and populated provinces compared with 26.5 percent for the poorest provinces with low population density (column 12). The City of Buenos Aires is at one extreme, with total revenue equivalent to 5.9 percent of its GDP, and Formosa is at the other extreme, with revenue of 59.3 percent of GDP.

There is much less variation in the collection of own-source revenues, from 3.8 percent of GDP to 4.9 percent for the averages of the four groups. This is especially the case for the most important provincial tax, the turnover tax, for which the revenue average is 2.9 percent of GDP in the group of poor and sparsely populated provinces, and 3.7 percent in the richer and highly populated provinces. This is also true for the stamp tax, with revenue of about 0.4 percent of GDP in the four groups. Real estate tax collection is higher for provinces with high population density, suggesting that urban properties account for most of the revenue from this tax.

The Turnover Tax

Historically, the Argentine provinces used a tax on gross sales, the profitable activities tax, which is a type of turnover tax.⁸ When the VAT was introduced at the federal level in 1975, the provinces agreed to eliminate the profitable activities tax in order to receive a share of VAT collections. However, a turnover tax was soon reintroduced as a gross sales tax in response to the high deficits prevailing at that time. In the early 1980s, there was one failed attempt to reduce the cascading effect of the gross sales tax, and in the early 1990s, the federal government provided some incentives to provinces to reduce the cascading under the umbrella of two fiscal agreements (1992 and 1993). The agreements required the provinces to exempt primary activities, manufacturing, construction, and financial services. About 60 percent of the provinces complied with the exemptions on primary activities, manufacturing, and construction, but only a few extended the

⁸ This section is a summary of Artana et al. (2011).

Table 2.2 ■ Provincial Revenue as Percentage of Provincial GDP, 2009

	Cascade tax	Real estate tax	Tax on motor vehicles		Stamp tax	Other taxes	Total own-source taxes	Royalties	Other non-tax revenues	Total non-tax revenue	Capital revenue and other	Total own-source revenues	Automatic transfers	Discretionary transfers	Total federal transfers	Total provincial revenue
	1	2	3	4	5	6 = 1+2+3+4+5	7	8	9 = 7+8	10	11 = 6+9+10	12	13	14 = 12+13	15 = 11+14	
City of Buenos Aires	3.55%	0.56%	0.43%	0.31%	0.06%	4.90%	0.00%	0.24%	0.24%	0.06%	5.20%	0.57%	0.12%	0.69%	5.89%	
Buenos Aires	3.91%	0.36%	0.35%	0.34%	0.36%	5.32%	0.00%	0.21%	0.21%	0.10%	5.63%	3.80%	1.66%	5.46%	11.09%	
Catamarca	1.75%	0.10%	0.16%	0.19%	0.00%	2.20%	0.68%	2.32%	3.01%	0.43%	5.64%	18.96%	1.51%	20.47%	26.11%	
Córdoba	3.72%	0.43%	0.21%	0.24%	0.00%	4.59%	0.00%	0.71%	0.71%	0.27%	5.58%	7.80%	2.00%	9.80%	15.38%	
Corrientes	1.59%	0.11%	0.00%	0.25%	0.00%	1.96%	0.10%	0.11%	0.21%	0.32%	2.49%	14.31%	1.49%	15.80%	18.30%	
Chaco	3.08%	0.03%	0.00%	0.41%	0.69%	4.21%	0.00%	0.42%	0.42%	0.40%	5.03%	29.56%	11.98%	41.54%	46.57%	
Chubut	2.74%	0.00%	0.00%	0.35%	0.09%	3.19%	6.49%	1.72%	8.21%	0.70%	12.10%	6.01%	1.81%	7.81%	19.91%	
Entre Ríos	2.55%	0.64%	0.42%	0.38%	0.48%	4.47%	0.88%	0.25%	1.12%	0.46%	6.06%	15.32%	4.49%	19.81%	25.87%	
Formosa	2.47%	0.04%	0.00%	0.33%	0.15%	2.99%	0.27%	0.70%	0.98%	0.30%	4.26%	45.75%	9.29%	55.04%	59.31%	
Jujuy	2.40%	0.12%	0.00%	0.30%	0.21%	3.03%	0.02%	0.34%	0.36%	0.32%	3.70%	22.39%	11.44%	33.84%	37.54%	
La Pampa	3.77%	0.99%	0.56%	1.03%	0.09%	6.45%	1.13%	0.64%	1.77%	2.37%	10.59%	19.67%	3.99%	23.66%	34.25%	
La Rioja	2.10%	0.07%	0.27%	0.07%	0.00%	2.51%	0.00%	0.19%	0.19%	1.75%	4.44%	29.42%	15.90%	45.32%	49.76%	
Mendoza	3.08%	0.37%	0.43%	0.48%	0.03%	4.38%	2.05%	0.86%	2.92%	0.50%	7.80%	8.57%	1.95%	10.52%	18.32%	
Misiones	2.80%	0.14%	0.04%	0.26%	0.02%	3.25%	0.46%	0.25%	0.71%	0.40%	4.36%	11.98%	4.14%	16.12%	20.49%	
Neuquén	3.24%	0.21%	0.00%	0.39%	0.00%	3.83%	7.37%	5.05%	12.42%	1.43%	17.68%	5.30%	1.24%	6.54%	24.22%	
Río Negro	3.22%	0.24%	0.46%	0.36%	0.01%	4.29%	2.28%	0.90%	3.19%	0.33%	7.81%	12.20%	2.55%	14.75%	22.56%	
Salta	4.65%	0.05%	0.00%	0.63%	0.33%	5.67%	2.93%	0.60%	3.52%	0.59%	9.78%	21.59%	4.86%	26.45%	36.23%	

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Table 2.2 ■ Provincial Revenue as Percentage of Provincial GDP, 2009 (continued)

	Cascade tax	Real estate tax	Tax on motor vehicles	Stamp tax	Other taxes	Total own-source taxes	Royalties	Other non-tax revenues	Total non-tax revenue	Capital revenue and other	Total own-source revenues	Automatic transfers	Discretionary transfers	Total federal transfers	Total provincial revenue
	1	2	3	4	5	6 = 1+2+3+4+5	7	8	9 = 7+8	10	11 = 6+9+10	12	13	14 = 12+13	15 = 11+14
San Juan	2.80%	0.31%	0.40%	0.31%	0.64%	4.46%	0.60%	0.63%	1.22%	1.19%	6.88%	24.46%	4.89%	29.35%	36.23%
San Luis	3.94%	0.27%	0.20%	0.41%	0.03%	4.85%	0.00%	0.35%	0.35%	0.64%	5.85%	18.32%	1.80%	20.13%	25.98%
Santa Cruz	3.97%	0.01%	0.00%	0.57%	0.00%	4.55%	8.78%	1.71%	10.49%	7.54%	22.59%	10.75%	11.29%	22.04%	44.63%
Santa Fe	2.92%	0.32%	0.00%	0.48%	0.02%	3.74%	0.00%	0.12%	0.12%	0.30%	4.16%	7.35%	1.29%	8.64%	12.80%
Santiago del Estero	2.38%	0.20%	0.10%	0.37%	0.53%	3.58%	0.02%	0.32%	0.33%	0.59%	4.51%	30.40%	9.17%	39.57%	44.08%
Tierra del Fuego	3.39%	0.00%	0.00%	0.15%	0.84%	4.39%	3.15%	1.70%	4.85%	0.72%	9.96%	11.94%	3.17%	15.11%	25.08%
Tucumán	7.05%	0.89%	0.39%	0.92%	0.20%	9.43%	0.00%	0.97%	0.97%	0.68%	11.08%	25.85%	7.71%	33.56%	44.64%
High development and high population density	3.65%	0.42%	0.33%	0.34%	0.19%	4.92%	0.09%	0.29%	0.37%	0.14%	5.44%	3.80%	1.21%	5.01%	10.45%
High development and low population density	3.33%	0.19%	0.13%	0.43%	0.10%	4.18%	5.06%	2.25%	7.31%	1.76%	13.26%	10.00%	3.17%	13.16%	26.42%

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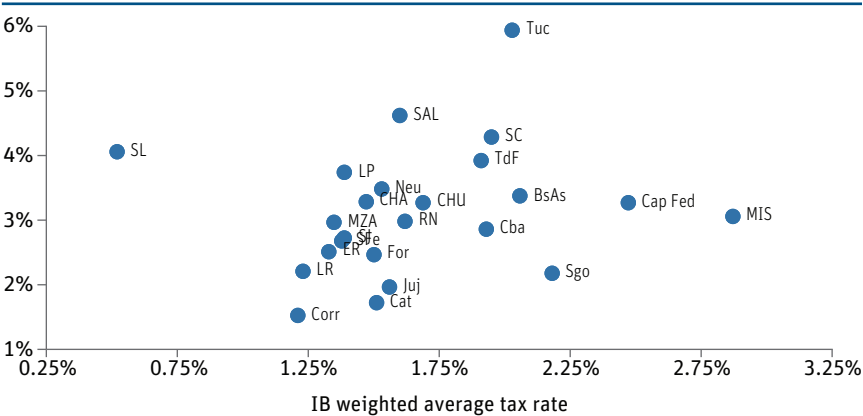
Table 2.2 ■ Provincial Revenue as Percentage of Provincial GDP, 2009 *(continued)*

	Cascade tax	Real estate tax	Tax on motor vehicles		Stamp tax	Other taxes	Total own-source taxes	Royalties	Other non-tax revenues	Total non-tax revenue	Capital revenue and other	Total own-source revenues	Automatic transfers	Discretionary transfers	Total federal transfers	Total provincial revenue
	1	2	3	4	5	6 =	1+2+3+4+5	7	8	9 =	10	11 =	12	13	14 =	15 =
Low development and high population density	3.08%	0.34%	0.16%	0.40%	0.25%	4.22%	0.33%	0.33%	0.35%	0.67%	0.43%	5.33%	18.29%	5.85%	24.14%	29.47%
Low development and low population density	2.88%	0.14%	0.15%	0.36%	0.31%	3.83%	0.99%	0.99%	0.85%	1.84%	0.75%	6.41%	26.52%	6.52%	33.04%	39.45%
Weighted average	3.45%	0.38%	0.29%	0.35%	0.19%	4.74%	0.59%	0.59%	0.49%	1.08%	0.34%	6.16%	6.77%	2.06%	8.83%	14.99%
Simple average	3.22%	0.27%	0.18%	0.40%	0.20%	4.26%	1.55%	1.55%	0.89%	2.44%	0.93%	7.63%	16.76%	4.99%	21.75%	29.38%
Coefficient of variation	0.345	1.004	1.068	0.547	1.290	0.361	1.630	1.630	1.202	1.384	1.615	0.612	0.633	0.866	0.642	0.469
Minimum	1.74%	0.00%	0.00%	0.07%	0.00%	1.96%	0.00%	0.00%	0.11%	0.12%	0.06%	2.49%	0.57%	0.12%	0.69%	5.89%
Maximum	7.04%	0.99%	0.56%	1.03%	0.84%	9.43%	8.78%	8.78%	5.05%	12.42%	7.54%	22.59%	45.75%	15.90%	55.04%	59.31%

Source: Authors' calculations.

Notes: High Development and High Population Density: City of Buenos Aires, Buenos Aires, Córdoba, Mendoza, and Santa Fe. High Development and Low Population Density: Chubut, La Pampa, Neuquén, Río Negro, San Luis, Santa Cruz, and Tierra del Fuego. Low Development and High Population Density: Corrientes, Chaco, Entre Ríos, Jujuy, Misiones, and Tucumán. Low Development and Low Density: Catamarca, Formosa, La Rioja, Salta, San Juan, and Santiago del Estero.

Figure 2.2 | Average Statutory Rates and Revenue Collections of the Turnover Tax Across Provinces, 2008



Source: Authors' calculations based on the Instituto Argentino de Análisis Fiscal (IARAF), Ministry of Economy, and estimates of provincial GDP.

Notes: City of Buenos Aires (CapFed), Buenos Aires (BsAs), Catamarca (Cat), Cordoba (Cba), Corrientes (Corr), Chaco (CHA), Chubut (CHU), Entre Ríos (ER), Formosa (For), Jujuy (Juj), La Pampa (LP), La Rioja (LR), Mendoza (MZA), Misiones (MIS), Neuquen (Neu), Río Negro (RN), Salta (SAL), San Juan (SJ), San Luis (SL), Santa Cruz (SC), Santa Fe (SFe), Santiago del Estero (Sgo), Tierra del Fuego (TdF), Tucumán (Tuc).

exemptions to financial services. During the 2000s, the fiscal agreements were abandoned and most provinces started to tax those activities again.

Some provinces reduce rates for this turnover tax for small firms and grant other exemptions either for development reasons (e.g., manufacturing located in industrial zones) or for distribution purposes (e.g., lower rates on some foods, transport, and medicines). The fiscal loss for these special regimes is substantial (e.g., about 23 percent of 2010 collections in the province of Buenos Aires).

The weighted average statutory tax rate for all provinces is estimated to have been 1.7 percent in 2010 (up from 1.6 percent in 2002),⁹ but there are large variations across provinces. Table 2.3 provides information on the dispersion of such rates across provinces and types of economic activity.

Figure 2.2 shows that there are also important differences in collections for relatively similar average statutory rates. This may reflect exemptions that were not considered in the estimate of the rates or differences in tax enforcement.

⁹ The average rate for each province is estimated using the shares of each economic sector in provincial GDP and taking into consideration general exemptions (but not exemptions granted to specific firms such as those located in industrial parks).

Table 2.3 ■ Dispersion of Rates in Provincial Turnover Taxes by Economic Activity and Province, 2006

	Primary tax		Tax on manufacturing & construction located in same province		Utilities tax		Tax on commerce, restaurants, & hotels		Financial intermediation tax	
	Provincial turnover	Municipal	Provincial turnover	Municipal	Provincial turnover	Municipal	Provincial turnover	Municipal	Provincial turnover	Municipal
Average rate in 24 provinces	0.49%	0.47%	0.78%	0.39%	2.38%	0.69%	2.67%	0.90%	2.69%	0.85%
Minimum rate	0.00%	0.00%	0.00%	0.10%	0.60%	0.05%	1.60%	0.25%	0.00%	0.05%
Maximum rate	2.00%	3.40%	2.30%	1.40%	3.40%	2.60%	4.40%	2.10%	4.40%	3.00%
Coefficient of variation	1.27	1.54	0.97	0.77	0.31	0.88	0.22	0.48	0.39	0.85

Source: Authors' calculations based on IARAF (2010) and IERAL (2006).

The distortions engendered by the tax have increased in the 2000s:

- The cascading effect of the tax has worsened as a result of increasing the tax burden on primary, manufacturing, construction, and financial services, which are used as inputs in other economic activities.
- Of the 24 provinces, 21 levy the tax at a higher rate on sales by manufacturers located in other provinces. The differences in rates are substantial.¹⁰ This increases the cost for a firm to purchase inputs in other provinces and thus represents an obstacle to interprovincial trade.
- Withholdings have become more pervasive. In the 24 provinces, there are more than 60 withholding regimes.¹¹ Several are particularly important in the most developed provinces. For instance, they accounted for 54 percent of turnover tax revenue in the City of Buenos Aires and 83 percent in the province of Buenos Aires. There is a non-negligible probability of chronic excess withholdings that provinces are reluctant to reimburse. Moreover, as the regional distribution of purchases is likely to be different from the regional distribution of sales, many firms could have a credit with some provinces even though on aggregate they have a balanced position. Only a few provinces permit the transfer of excess withholdings to other taxpayers.

The share of the turnover tax imposed on producers of tradable goods can be considered a tax on production, since Argentina is a price-taker in world markets; therefore, the turnover tax is likely to fall on labor and capital incomes. The tax on the part of goods and services sold in the domestic market is a tax on consumption at variable rates that depends on the extent of cascading and on the value added in the different stages of production. On the basis of information on collections by sector for some of the large provinces, it appears that retail activities with no cascade effects account for about 30 percent of total revenue. Primary activities and manufacturing with maximum cascade effect account for about 20 percent. The remaining 50 percent is from services (financial and transport)

¹⁰ IARAF (2010) estimates that the weighted average tax rate for the 24 provinces for manufacturers located in other provinces is more than double the rate for manufacturers located in-province.

¹¹ Credit card companies must withhold 3 percent of payments made to retailers. Suppliers are required to withhold a percentage of the net-of-tax sale if the buyer is registered as a taxpayer in the province. Most provinces have an agreement with Federal Customs to withhold 1.5 percent of imports. Finally, financial institutions are required by the provinces to withhold a percentage of bank deposits made by firms if they presume that the deposit was related to sales.

or construction that have a mix of final and intermediate sales. Thus, the overall cascading effect of the turnover tax is substantial, as most of the revenue is from activities that are inputs into other activities.

The Municipal Health and Security Tax

Most municipalities levy a tax on gross sales (the so-called health and security tax) that mimics the provincial turnover tax, although at lower rates. However, the variance in rates for the same economic activity is usually higher among municipalities than among provinces.¹² Each municipality decides on the base to use for the tax. When municipalities opt to use other taxable bases, for example, the number of employees or the size of the shop where the activity takes place, the tax as a percentage of sales is usually lower. For municipalities, the weighted average rate of the tax on gross sales increased from 0.58 percent of sales in 2003 to 0.67 percent in 2010.

The effect of this tax, when levied on sales, is similar to that of the provincial turnover tax. When provinces opt to tax employment, its incidence is similar to a tax on labor (likely to reduce formal employment and labor income in an open economy), and when they opt to use the size of the shop, it is similar to that of a tax on real estate.

Urban and Rural Real Estate Taxes

Residential and business properties are subject to both federal and provincial taxes in Argentina (Table 2.4).

During the 1980s and 1990s, some provinces shifted the collection of property taxes on urban real estate and automobiles to local governments. All provinces calculate the tax on the assessed value of properties, which in principle should reflect the main characteristics of the properties and their market values. However, the valuation of old properties is not updated regularly, with the exception of their most visible characteristics.¹³ The typical structure of the tax includes progressive rates for urban properties, higher rates for unused urban land, and tax rates on rural land that are proportional in some provinces and progressive in others. There are subjective exemptions and variations according to the location of the property. The tax rate on real estate in the most developed provinces is about 0.5 percent of market value.

¹² There is more uniformity across sectors. For example, the average tax rate for commerce is twice the rate of primary activities, while for the turnover tax it is 5.4 times greater.

¹³ A federal law (26209/07) was enacted in 2007 to create a Federal Cadaster Council made up of all the provincial cadasters (i.e., a single cadaster for the whole country), but it has not been implemented so far.

Table 2.4 ■ Taxation of Property Assets and Their Income in Argentina

	Taxation of assets		Taxation of income flow		Taxation of capital gains		Taxation of transactions	
	Debt-financed	Equity-financed	Debt-financed	Equity-financed	Debt-financed	Equity-financed	Debt-financed	Equity-financed
Own house	Tp + Tpf	Tp + Tpf	Subsidy with ceiling	No tax	Exempt	Exempt	Ts	Ts
House for rental	Tp + Tpf	Tp + Tpf	Subsidy with no ceiling because of inflation	> Ty because of depreciation at historical cost	Exempt	Exempt	Ts	Ts
Business real state	Tp + Taf	Tp + Taf	Subsidy with no ceiling because of inflation	> Ty because of depreciation at historical cost	Ty on nominal change in value	Ty on nominal change in value	Ts	Ts
Agricultural land	Tp + Taf	Tp + Taf	Subsidy with no ceiling because of inflation	> Ty because of depreciation at historical cost	Ty on nominal change in value	Ty on nominal change in value	Ts	Ts

Source: Authors' estimates.

Notes: Tp=provincial tax on urban land and buildings. Ts=provincial stamp tax. Ty=federal income tax. Tpf=federal tax on personal assets. Taf=federal tax on business assets. The tax on business assets can be credited against the tax on business income.

As in other Latin American countries, the revenue performance of real estate taxes is adversely affected by significant informality in the housing market and by weaknesses in enforcement, as indicated by the fact that collections lag behind assessments issued.¹⁴

Motor Vehicles Tax

Provinces tax car ownership at different rates, as high as 4 percent of the purchase price in the richer provinces (Table 2.5), plus a 1 percent registration fee.¹⁵ While some provinces charge a proportional tax on the value of the car, others have a progressive rate structure, and commercial vehicles are usually taxed at lower rates. In addition, many provinces exempt old cars for equity reasons, even though this contradicts fuel efficiency and environmental objectives.

There are several problems with how vehicles are taxed in Argentina. Taxing according to the value of the car is difficult to justify from an environmental point of view. Price is unlikely to be correlated with CO₂ emissions or fuel consumption and, while the size of the engine is likely to lead to a higher price, there are many other attributes that will be taxed by using the value of the car as the tax base. In fact, since a higher price is usually associated with improvements in the quality of the car (e.g., safety), the Argentine tax is ultimately a tax on quality. Also, the lower tax on commercial vehicles is difficult to justify on environmental or equity grounds. A rationale may be found, however, in avoiding additional efficiency costs since commercial vehicles are an input of production.

Contract Stamp Tax

This is a cascade tax on some contracts that differs from one province to another. The City of Buenos Aires has reintroduced the tax, which it abolished during the 1990s. In many provinces, most of its revenue is from real estate transactions and from financial and insurance contracts. In 2009, the 24 provinces collected about 0.36 percent of the country's GDP in stamp taxes, but in some provinces the collections (expressed as a percentage of local GDP) were much higher. For example, collections totaled 1 percent of GDP in La Pampa, 0.9 percent in Tucuman, and about 0.6 percent in Salta and Santa Cruz.

¹⁴ See De Cesare and Lazo Marín (2008) for a review of property taxes in Latin America.

¹⁵ Argentina has a centralized federal automobile registry that serves all provinces. For new vehicle registration, the owner pays a fee of 1 percent of the market value of the car plus lump sum fees for issuing the vehicle's title. The value of cars is updated regularly and is similar to the market price. When an old car is sold, the registry charges another 1 percent of the value of the car for the transfer of ownership.

Table 2.5 ■ **Structure of Tax on Motor Vehicles in Selected Provinces, as a Percentage of Market Value**

	Taxation of passenger cars			Taxation of commercial vehicles		
	Minimum rate	Maximum rate	Exemption for old cars	Taxis and vans	Trucks	Buses
City of Buenos Aires*	3.52%	3.52%	Yes, more than 12 years	2.53%	1.38%	1.27%
Province of Buenos Aires	3.00%	3.90%	Transferred to municipalities	3.00%	1.50%	1.50%
Cordoba	1.20%	1.50%	Yes, before 1998	1.20%	1.07%	1.07%
Mendoza	2.30%	2.90%	Pay minimum fee of US\$12	N/A	N/A	N/A
San Luis	2.50%	2.50%	Pay minimum fee according to weight	2.50%	1.25%	1.25%
Santa Fe	2.00%	2.00%	Pay minimum fee of US\$3	0.50%	1.50%	0.50%
Tucuman	2.00%	2.00%	N/A	2.00%	1.00%	N/A
La Pampa	2.00%	3.00%	Yes, before 1990	2.30%	1.25%	2.10%
Catamarca	2.00%	2.00%	Pay minimum fee of US\$10	2.00%	1.50%	1.50%
Jujuy	1.00%	1.00%	Pay minimum fee of US\$7	1.00%	1.00%	1.00%
Neuquén-San Martín de los Andes	3.50%	3.50%	Yes, more than 20 years	2.30%	1.60%	1.60%
Entre Ríos	1.80%	2.30%	Pay minimum fee of US\$7	2.00%	1.50%	0.50%
Misiones	2.00%	2.00%	Older than 16 years, pay a minimum fee of US\$5	N/A	0.80%	0.80%

Source: Authors' calculations based on provincial tax codes.

Notes: N/A = no data available. The City of Buenos Aires includes a surcharge of 10 percent to expand the subway network. Market values are estimated by the National Register based on information provided by insurance companies and car manufacturers.

Other Revenues

Some provinces tax labor or sales of utilities, and the 12 provinces that did not transfer their pay-as-you-go pension system to the federal government collect labor taxes on public employees. All provinces and municipalities collect user fees, although it is not clear whether they are set on a cost-recovery basis. User

fees are related to different services, such as the use of public cemeteries, court fees, road levies, driver licenses, and traffic violations.

Resource-rich provinces collect royalties from mining, electricity, crude oil, and natural gas. Most revenue from royalties is from the production of crude oil and natural gas. The rate used to be 12 percent of the value of production, but recently some provinces agreed on different rates in bilateral negotiations with private firms to extend the concessions. In mining, the royalty is usually 3 percent.

The collection of royalties should have minimum administration costs because it is relatively easy to monitor oil and gas outputs, while the provinces can control the incentives to underestimate prices by looking at market prices. However, there have been some problems with estimating the price discount that lower-quality petroleum carries in the market. More recently, provinces have relied on private firms to audit the price and quantity declared by oil and natural gas companies.

Most provinces share revenue from royalties with their local governments, with some regional distribution objective, by allocating a fraction of revenue even to the municipalities that have no production. Provinces and municipalities where oil and natural gas production takes place also tax oil companies under their turnover tax, and the base is usually the same used to calculate royalties.

Determinants of Level and Composition of Provincial Revenue

This section focuses on three main questions to provide background for reform options:

- How elastic are various types of provincial revenue to income (GDP)?
- How well do the provinces exploit their tax potential?
- How do different types of federal transfers affect the level and composition of provincial taxes?

A response to these questions provides useful background for the analysis of reform options discussed in subsequent sections.

Income Elasticity of Provincial Revenue

Previous studies¹⁶ have argued that provincial own-tax revenues, especially the turnover tax, are highly sensitive to the economic cycle, significantly more

¹⁶ See Sturzenegger and Werneck (2006). Their estimations are based on a provincial panel for the period 1992–2002.

so than federal transfers. It is important to check the validity of this argument because it suggests the following:

- The problem of pro-cyclical revenue may have been aggravated in recent years by the increased reliance of provinces on the turnover tax.
- A reform of own-source revenues, or proposals to reduce the vertical imbalance, would need to include assigning the provinces tax bases that are less sensitive to the economic cycle.

To analyze this question, and following an approach similar to that of Sturzenegger and Werneck (2006), the income elasticities of provincial revenues are estimated using the following equation:

$$\log(y_{it}) = \beta_0 + \beta_1 \log(GDP_{it}) + u_i + \varepsilon_{it} \quad i=1...N, t=1...T$$

where y are different types of provincial revenues, GDP is provincial GDP (both measured in real terms), and u is a provincial level fixed effect. The fixed effect captures average differences between provinces. The parameter β_1 measures the income elasticity of the different types of revenues.¹⁷

Table 2.6 presents the results for the period 1993–2009. The first regression in column (1) uses total provincial revenue as the dependent variable and includes subnational taxes, transfers from the federal government, and non-tax revenue as explanatory variables. The second regression (column 2), in which royalties are removed from non-tax revenue, suggests that the pro-cyclical behavior of revenue is not related to this component. Column (3) takes into account only subnational tax revenue, and column (7) only federal government transfers, showing that both dependent variables have similar elasticity. Columns (4) to (6) break the own-tax revenue of provinces into the turnover tax (4), the stamp tax (5), and property taxes (6), showing that pro-cyclicality comes from the turnover tax. Columns (8) and (9) break transfers into discretionary (8) and automatic (9), showing that the former has the higher elasticity among all sources of revenue.

Elasticities may have changed in the 2000s compared with the 1990s. Simple scatter diagrams show clear differences only for property taxes and discretionary transfers. To test whether the differences are statistically significant, the

¹⁷ Strictly speaking, the parameters measure not the elasticity but the buoyancy of the revenues, since they do not correct for changes in tax rates and in the definition of the tax bases, which are very difficult to quantify in practice for the 24 Argentine provinces.

Table 2.6 ■ Income Elasticities and Provincial Taxes (fixed effect estimation)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Provincial total revenues	Provincial own tax revenue + transfers	Total	Turnover tax	Stamp tax	Property tax	Total	Discretionary Transfers	Automatic
Log(GDP)	1.387*** (34.89)	1.334*** (31.16)	1.373*** (27.86)	1.738*** (31.05)	0.805*** (6.47)	0.199*** (2.76)	1.373*** (27.86)	3.057*** (16.46)	1.205*** (27.34)
Constant	-4.922*** (-14.64)	-4.553*** (-12.57)	-5.207*** (-12.49)	-10.09*** (-21.32)	-4.053*** (-3.87)	1.414** (-2.27)	-5.207*** (-12.49)	-21.82*** (-13.89)	-3.930*** (-10.54)
Observations	408	408	408	408	379	306	408	408	408
R-squared	0.761	0.717	0.67	0.716	0.106	0.026	0.67	0.414	0.661
F	1217.2	970.8	776.1	964.4	41.91	7.633	776.1	270.9	747.5

Source: Authors' calculations.

Notes: t statistics in parentheses.

same fixed effect model was estimated but including slope and constant dummies to distinguish the 1990s from the 2000s (dummy taking 1 for the 1993–2001 convertibility period). The coefficient for slope dummy can be interpreted as the increase (or decrease if negative) in the elasticity value for the 2000s compared to the 1990s.

The results are consistent with the scatter diagrams: the elasticity of overall provincial revenue (including or excluding royalties) has not changed significantly (Table 2.7). The income elasticity of federal transfers has increased, and that of provincial taxes has decreased, reversing the result found by Sturzenegger and Werneck (2006). In the 2000s, transfers became more elastic than tax revenues. The decline in the elasticity of the latter is explained by the property and stamp taxes, since for the turnover tax there is no significant change in elasticity. For federal transfers, the increase is significant for both automatic and discretionary transfers, but clearly larger for discretionary transfers.

Finally, if we include in the analysis a dummy for the year 2002, which was the year of the structural break (the end of convertibility and the major economic crisis), all the estimated elasticities are lower and the 2002 dummy is significant in all regressions, indicating that revenue declined more than usual in that year. For example, for total transfers, the elasticity declined from 1.382 to 1.151, and for the turnover tax, from 1.530 to 1.249.¹⁸

Summing up, the empirical evidence suggests that the turnover tax is procyclical, but elasticity using the entire period, or the 1992–2002 period used by Sturzenegger and Werneck (2006), is biased upward because of the structural break. Controlling for the break tends to reduce estimated elasticity. It is also important to note that subnational tax revenues were not more pro-cyclical than federal government transfers (though they were in the 1990s, the differences were not statistically significant, and the situation was reversed in the 2000s).

How Well Do Provinces Exploit Their Tax Bases?

An analysis of how well the provinces are exploiting their tax bases can be conducted using alternative techniques. One option would be to use stochastic frontier analysis, a technique traditionally used for production functions and more recently adapted to measure revenue effort.¹⁹ In this analysis, each province would be compared to the efficiency frontier.

Another option is a regression-based model in which each province is compared with the average provincial tax effort. Neither technique can discern

¹⁸ Results are available from the authors.

¹⁹ Pessino and Fenochietto (2010) use this technique at the national level.

Table 2.7 ■ Income Elasticities of Provincial Revenues, 1990s versus 2000s (fixed effect estimation)

	(1)	(2)	(3)	Provincial own-source revenues			(7)	Transfers		(9)
	Provincial total revenue	Provincial own-source revenue + transfers	Total	Turnover tax	Stamp tax	Property tax	Total	Discretionary	Automatic	
Entire period	1.387	1.334	1.405	1.738	0.805	0.199	1.373	3.057	1.205	
2000s	1.274	1.312	1.297	1.530	1.251	0.390	1.382	2.530	1.280	
1990s	1.263	1.291	1.338	1.532	1.361	0.454	1.292	2.069	1.227	
Significance of the difference			**		**	***	***	***	***	***

Source: Authors' calculations.

Notes: *p<0.10, **p<0.05, ***p<0.01. Different elasticities for the subperiods are obtained using slope dummies. The constant dummy included in each regression captures the average change in the tax burden in the 1990s compared to the 2000s. The main changes are in discretionary transfers and property tax revenue.

whether a departure from the frontier or the average reflects a provincial decision to have a lower tax burden or is the consequence of inefficiencies in collecting taxes. For this study, we preferred a regression-based model because, among other things, it better addresses the problems of heteroskedasticity, spatial correlation, and autocorrelation of the errors than stochastic frontier analysis.²⁰

In the model, the per capita tax revenues of individual provinces are regressed on a number of likely determinants relating to the province's level of development, the composition of its GDP, and its other sources of revenue. Specifically, the explanatory variables used are provincial GDP per capita, bank deposits as percentage of GDP, years of education of the population over 16 years, a poverty index, the shares of agro-industrial and mining activities in GDP, royalties, and automatic federal transfers. Table 2.8 shows the results for different alternatives.

As expected, per capita GDP, automatic transfers, deposits, and years of education all have positive coefficients. Royalties are negative but statistically insignificant. Poverty is negative, as expected, and is significant. The agro-industrial and mining shares show negative correlations with tax collection, although mining shows a stronger correlation. Two dummy variables were tried: one to capture the pre- and post-convertibility periods,²¹ and another for the year 2002 to capture the impact of the macroeconomic crisis.

Excluding the variables that are non-significant at 10 percent, the results of equation 5 are used to estimate revenue bands for each province and for each year. According to these estimates, in 2009, Catamarca, Formosa, and Tucuman were collecting more than projected on the basis of their characteristics; Chubut, San Luis, and Santa Cruz were converging with the forecast interval after some years of "excess" revenue; Entre Ríos and Santa Fe were collecting less than projected; and Cordoba was converging after some years of "low" revenue.

The Impact of Federal Transfers on Provincial Taxes

Here we explore the determinants of the provincial tax structure, particularly the role of federal transfers. We attempt to explain why, as discussed above, the share of the turnover tax in provincial tax revenue increased, at the expense of the property tax, during the 2000s, and whether the composition of federal transfers played a role in this shift.

²⁰ Moreover, to correctly estimate the efficiency frontier, it would be necessary to have information about the effectiveness of the provincial tax administrations, which is not currently available (Esteller-Moré, 2003).

²¹ This dummy is 0 from 1993 to 2001 and 1 from 2002 to 2009.

The econometric model is:

$$y_{it} = x_{it}\beta_k + \delta t_{it} + u_i + \varepsilon_{it} \quad i=1\dots N, t=1\dots T$$

where y_{it} is a measure of either the subnational tax structure or the tax pressure; x_{it} is a vector of provincial characteristics; t_{it} is federal transfers; and u_i is province-specific effect (uncorrelated with ε_{it} but possibly correlated with x_{it} or t_{it}). Automatic transfers are exogenous (since they are determined by rules not linked to the cycle), but discretionary transfers are endogenous, a fact that would bias the estimation of the parameters in a fixed effect ordinary

Table 2.8 ■ **Determinants of Local Revenues Using Panel-Corrected Standard Errors^a**

	Dependent variable: total provincial tax revenue per capita				
	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5
log(prov. GDP in real terms pc)	0.750*** (0.074)	0.588*** (0.073)	0.591*** (0.075)	0.585*** (0.078)	0.912*** (0.115)
log(automatic transfers/prov. GDP)	0.328*** (0.056)	0.237*** (0.057)	0.235*** (0.057)	0.232*** (0.058)	0.179*** (0.060)
log(deposits/prov. GDP)	0.110*** (0.023)	0.056*** (0.021)	0.057*** (0.021)	0.055*** (0.021)	0.046*** (0.020)
log(years of education)	0.482** (0.236)	0.009 (0.261)	0.014 (0.262)	0.035 (0.266)	-0.112 (0.264)
Poverty	-0.949*** (0.137)	-1.188*** (0.158)	-1.188*** (0.159)	-1.189*** (0.160)	-0.911*** (0.167)
log(royalties/prov. GDP)			-0.003 (0.011)	-0.003 (0.011)	
Agroindustrial (share of prov. GDP)				-0.033 (0.330)	-0.762* (0.393)
d2002		-0.151*** (0.029)	-0.150*** (0.029)	-0.153*** (0.030)	-0.153*** (0.030)
Convertibility dummy		0.162*** (0.028)	0.162*** (0.028)	0.164*** (0.028)	0.146*** (0.027)
Constant	-12.96*** (0.765)	-11.04*** (0.870)	-11.16*** (0.968)	-11.14*** (1.009)	-13.92*** (1.185)
Observations	325	325	325	320	320

Source: Authors' calculations.

Notes: Standard errors in parentheses. *p<0.10, **p<0.05, ***p<0.01.

^a The estimated model shows evidence of heteroskedasticity, contemporaneous correlation, and autocorrelation. Using a panel-corrected standard error seems the most plausible estimation at this point. Fixed effects were captured by including dummy variables for each province; for simplicity, these estimated parameters are not shown in the table.

Table 2.9 | Tax Structure, Fixed Effect Estimation

	(1)	(2)	(3)	(4)	(5)	(6)
	PT share	TT share	PT share	TT share	PT share	TT share
log(DT/GDP)	-0.016*** (-8.36)	0.040*** (9.16)	-0.009*** (-4.56)	0.023*** (5.12)	-0.006*** (-2.88)	0.013*** (2.87)
log(AT/GDP)	-0.037*** (-3.99)	0.013 -0.64	-0.028*** (-3.14)	-0.011 (-0.57)	-0.0257*** (-3.02)	-0.010 (-0.52)
log(Roy/GDP)	-0.007*** (-2.87)	0.013** (2.34)	-0.000 (-0.02)	-0.004 (-0.78)	0.000 (0.03)	-0.005 (-1.01)
log(GDP)			-0.071*** (-8.19)	0.173*** (9.03)	-0.034*** (-3.37)	0.076*** (3.47)
Provincial inflation rate					-0.016*** (-5.22)	0.034*** (5.07)
Dum90s					0.000 (0.12)	-0.017* (-1.87)
Constant	-0.098*** (-3.71)	0.965*** (16.18)	0.601*** (6.77)	-0.747*** (-3.79)	0.334*** (3.50)	-0.017 (-0.08)
Observations	408	408	408	408	408	408
R-squared	0.262	0.226	0.373	0.362	0.434	0.448
F	45.12	37.01	56.46	54.00	48.34	51.12

Source: Authors' calculations.

Notes: PT = property tax; TT = turnover tax. t statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

log(DT/GDP) = log of Discretionary Transfers as a ratio of provincial GDP.

log(AT/GDP) = log of Automatic Transfers as a ratio of provincial GDP.

log(Roy/GDP) = log of Royalties as a ratio of provincial GDP.

Dum90s = 1 for 1993 to 2001.

least squares (OLS) estimation. An alternative is to use instrumental variables.²² Two instruments, related to political economy issues, were tested: (i) overrepresentation of the province in the Lower House of Congress, and (ii) overrepresentation in the Senate (both defined according to the ratio of the number of national deputies and senators to the provincial population).²³

A first set of regressions analyzes the tax structure. The dependent variables are either the share of the turnover tax or the share of property taxes in subnational tax revenue. The results, presented in Table 2.9, indicate that the fall in the

²² The two conditions for a valid instrument are that (i) it is correlated with the endogenous variable, and (ii) it is a valid exclusion in the original equation (i.e., not directly affecting the variable y).

²³ A third instrument (Color of Party, defined as the coincidence or not of the provincial government party with the national government) was explored, but it did not turn out to be significant.

property tax share is associated with an increase in federal transfers (as a share of provincial GDP) and an increase in the inflation rate. Royalties do not have a significant effect on the tax structure. It is interesting to note that discretionary and automatic transfers tend to have the same sign. Using instrumental variables does not significantly modify these results (Artana et al., 2012).

More specifically, the results lead to the following conclusions:

- Economic growth and inflation increase the share of the turnover tax but reduce that of property taxes. This is expected since the base of the turnover tax is associated with the size of nominal GDP, while property taxes need administratively and politically costly adjustments in the valuation of properties to maintain purchasing power in real terms.
- Discretionary transfers increase the share of the turnover tax and reduce that of property taxes. Automatic transfers have no statistically significant effect on the share of the turnover tax, but they reduce the share of property taxes in some specifications of the model. This evidence is consistent with the hypothesis that the “windfall” of discretionary transfers is partially used to reduce the burden of the more visible property taxes. On the other hand, automatic transfers do not affect the tax structure, consistent with the idea that, because they are anticipated, they are incorporated into the budget process of each province.
- The collection of royalties has an effect in the same direction as automatic transfers in columns (1) and (2) of Table 2.9, but once provincial GDP is included as a regressor, royalties become non-significant.

We used a second set of regressions to test the effects of the same variables on relative tax efforts, measured as the ratios of turnover and property tax revenue, respectively, to provincial GDP. The results, reported in Table 2.10, indicate that the provincial real GDP growth and the inflation rate affect tax effort in the same direction as tax structure—they reduce the burden of property taxes but increase that of the turnover tax. The dummy variable comparing the 1990s and 2000s shows that tax pressure (at the same level of transfers, GDP, and inflation) was lower in the 1990s than in the 2000s.

Finally, there is evidence of an asymmetric response to federal transfers. Discretionary transfers tend to reduce the ratios of both property and turnover taxes to provincial GDP—the effect is larger for property taxes—and automatic transfers increase both. This suggests that discretionary transfers work as a free lunch, reducing a province’s tax effort. On the other hand, the finding that automatic transfers do not affect the tax structure but increase the tax pressure might

Table 2.10 Tax Burden, Instrumental Variable Fixed Effect Estimation

	(1)	(2)	(3)	(4)	(5)	(6)
	PT /GDP	TT /GDP	PT /GDP	TT /GDP	PT /GDP	TT /GDP
log(DT/GDP)	-0.173 (-1.25)	-0.177** (-2.52)	-0.231* (-1.94)	-0.154*** (-3.20)	-0.239** (-2.05)	-0.149*** (-3.75)
log(AT/GDP)	0.592** (2.06)	1.060*** (7.25)	0.920*** (4.21)	0.738*** (8.36)	1.039*** (4.77)	0.674*** (9.07)
log(Roy/GDP)	-0.044 (-0.81)	0.102*** (3.75)	0.053 (1.02)	-0.008 (-0.40)	0.043 (0.85)	-0.009 (-0.53)
log(GDP)			-0.742*** (-2.67)	0.911*** (8.13)	-0.509** (-2.14)	0.273*** (3.37)
Provincial inflation rate					-0.244*** (-3.59)	0.196*** (8.50)
Dum90s					-0.258** (-2.52)	-0.070** (-1.99)
Observations	408	408	408	408	408	408
F	2.55	29.05	15.29	57.12	13.31	70.75
Anderson canon. corr. LM statistic	29.828	29.828	48.438	48.438	55.235	55.235
Cragg-Donald Wald F statistic	16	16	19.9	19.9	31.67	31.67
F	2.553	29.05	15.29	57.12	13.31	70.75

Source: Authors' calculations.

Notes: t statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

log(DT/GDP) = log of Discretionary Transfers as a ratio of provincial GDP.

log(AT/GDP) = log of Automatic Transfers as a ratio of provincial GDP.

log(Roy/GDP) = log of Royalties as a ratio of provincial GDP.

Dum90s = 1 for 1993 to 2001.

be related to the fact that most provinces receive more in automatic transfers than they contribute to the revenue pool. This regional redistribution of income helps improve the standard of living (at least for some parts of the population) and increase consumption, favoring the collection of both the turnover tax and property taxes.

Finally, a third set of regressions relating the ratios of total and capital provincial expenditures to federal transfers indicate that, if the endogeneity of discretionary transfers is allowed for by using instrumental variables, such transfers have a small negative effect on total expenditures and a positive effect on capital expenditures. Automatic transfers have a positive effect on both types of spending (Table 2.11).

The results suggest that provinces react differently to different types of federal transfers. Automatic transfers are spent, thereby increasing demand and

Table 2.11 ■ **Determinants of Provincial Expenditures, Instrumental Variable Fixed Effect Estimation**

	(1)	(2)	(3)	(4)	(5)	(6)
	Capital Exp.	Total Exp.	Capital Exp.	Total Exp.	Capital Exp.	Total Exp.
log(DT/GDP)	(0.060) (-0.56)	-0.066* (-1.84)	0.100 (1.09)	-0.066** (-2.15)	0.144* (1.68)	-0.071** (-2.47)
log(AT/GDP)	1.627*** (7.23)	0.835*** (11.13)	1.189*** (7.36)	0.775*** (13.81)	1.067*** (6.66)	0.727*** (13.61)
log(Roy/GDP)	0.091** (2.18)	0.028** (2.04)	(0.000) (-0.04)	0.010 (0.47)	0.010 (0.29)	0.010 (0.77)
log(GDP)			0.568*** (2.77)	0.190*** (2.66)	0.708*** (4.06)	0.030 (0.44)
Provincial inflation rate					0.105** (2.11)	0.128*** (7.70)
Dum90s					0.311*** (4.13)	0.100*** (3.97)
Observations	408	408	408	408	408	408
R-squared	0.23	0.32	0.33	0.35	0.36	0.43
F	43.80	89.40	47.30	71.47	35.42	63.76

Source: Authors' calculations.

Notes: t statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

log(DT/GDP) = log of Discretionary Transfers as a ratio of provincial GDP.

log(AT/GDP) = log of Automatic Transfers as a ratio of provincial GDP.

log(Roy/GDP) = log of Royalties as a ratio of provincial GDP.

Dum90s = 1 for 1993 to 2001.

thus increasing the bases and revenue of some provincial taxes. This reaction is consistent with a permanent income shock. Discretionary transfers, however, are seen as temporary income. Provinces use part of this income to increase capital expenditures and another part to reduce provincial taxes. Such a reduction in taxes could be reversed later if the political situation (or shortages of funds) force a decline in the discretionary amounts received from the federal government. This is a particular type of flypaper effect.²⁴

²⁴ There is vast literature analyzing the flypaper effect, which results when a dollar of exogenous grants-in-aid leads to significantly greater public spending than an equivalent dollar of citizen income (i.e., money sticks where it hits) (Inman, 2008). The literature looks at whether this anomaly is due to econometric problems. The main concern is the misclassification of grants as exogenous aid (endogeneity of grants) that may produce biased estimators. However, available studies show that, in general, when endogeneity issues are controlled for, the result holds, suggesting that the flypaper effect is a real phenomenon (Acosta, 2010; Dahlberg et al., 2006; Végh and Vuletin, 2010).

These empirical findings have important implications for proposals to improve the mobilization of subnational revenue. It is advisable to reduce the reliance of provinces on discretionary transfers, and, even better, to replace them by assigning other tax bases. If discretionary transfers are converted into automatic transfers, they are likely to increase government spending with no decline in the vertical imbalance.

Reform Options

Political Economy Considerations

Any analysis of options to reform subnational revenue requires consideration of political economy issues because the best normative design of a tax system will not be of interest if it cannot be implemented. Here we discuss the likely political constraints to subnational revenue reforms in Argentina.

Policymaking in Argentina has been depicted as a “non-cooperative game in which each actor behaves opportunistically and tries to maximize short-term benefits” (Spiller and Tommasi, 2008). In this context, both economic performance and policymaking have been characterized by volatility. Reforms and counter-reforms have been common, especially in taxation and budget.²⁵

From a political perspective, Argentina is a federal country where subnational units preceded the foundation of the nation. Provinces are frequently characterized as being controlled by political dynasties and as having restricted political competition, weak division of powers, clientelistic political linkages, and dominance of media and business opportunities by the same elites (Tommasi, 2002; Spiller and Tommasi, 2008; Gervasoni, 2008 and 2010; FIEL, 2010a; Urbiztondo et al., 2009). Governors are the natural beneficiaries of this environment, which makes them a major part of the political economy—particularly during the past 20 years—even with strong presidents.

The power of governors notwithstanding, the country’s fiscal organization, characterized by high vertical fiscal imbalances and soft budget constraints, makes governors very dependent on transfers from the federal government. Ardanaz, Leiras, and Tommasi (2008) add that the importance of the provinces and the dominance of governors in national politics are mutually reinforcing factors—governors must successfully obtain national resources to finance higher spending, which will be rewarded in elections.

²⁵ For example, former presidents Carlos Menem and Néstor Kirchner undertook important changes in national policies of exactly opposite sign but using the same political logic of exchanges with their “fellow provincial barons” (Ardanaz, Leiras, and Tommasi, 2010).

At the same time, the federal executive depends on governors to approve nationwide economic policies in Congress. Bonvecchi (2010) argues that the distribution of resources from the common pool is the only trigger for reforms in all fiscal areas. Every reform is first negotiated between the president and the governors. The governors then enjoin the national legislators from their respective provinces²⁶ to approve the negotiated bill to receive compensations (e.g., discretionary transfers, provincial allocation of national programs and public works, and provincially based tax exemptions) for their support.

Therefore, as Gibson (2007) concludes, the president and the governors are interdependent; however, this two-way relationship is conditioned by the economic cycle. In good times, governors may seem weak, while in the recessionary phase of the cycle, negotiations gain prominence. When presidents are unable to provide fiscal benefits to the provinces, governors use their power to block presidential initiatives and even implement provincial policies contrary to those at the national level. Ultimately, politics continue and win-win strategies do not seem to develop, even in periods of strong growth.

As constitutional and electoral rules give the provinces strong weight in the distribution of national power—they constitute districts for all national elective seats²⁷—territorial interests tend to prevail in the decisions of political and social actors. The cohesion of national parties has been decreasing during the past two decades, particularly since the early 2000s, making negotiations between the president and governors even more necessary—and difficult.

In this context, it is very difficult to reach agreements on reforms because interprovincial heterogeneity generates different sets of preferences with respect to national policies. Moreover, provincial representation in Congress is biased in favor of the least populated (and often financially vulnerable) provinces,²⁸ which can be co-opted in the legislative process at a comparatively low cost. Public spending and redistributive policies are consequently skewed in favor of those provinces.

Although reforms are needed to create conditions for effective new provincial tax assignments or to replace existing provincial taxes, they are especially difficult to implement, requiring supermajorities in Congress. This requirement arises from three constitutional clauses: (i) the division of tax sources between

²⁶ Legislators always act as agents—normally of provincial party bosses—and have little involvement in drafting tax bills, which are designed by the Ministry of Economy and proposed by the federal executive.

²⁷ The only exception since the 1994 constitutional reform is the presidential election.

²⁸ Mal-apportionment is magnified because it is present not only in the Senate, which is the case in any federal country, but also in the House of Representatives.

the provinces and the federal government, (ii) the procedural advantage on tax initiatives granted to the lower house, and (iii) the special majority required to introduce or change any earmarking of tax revenue. To achieve these special majorities, the national executive needs to negotiate not only with over-represented and usually poor provinces, but also with large jurisdictions (Bonvecchi, 2010).

In summary, when considering the probability that tax reforms will be made to mobilize subnational revenue, it is important to remember that every attempt to change the federal revenue-sharing law was blocked by the provinces. Even the 1992 and 1993 agreements between the federal government and the provinces, which involved a huge transfer of resources to the provinces, were finally reversed in areas such as taxation. Additionally, it is crucial to consider the phase of the economic cycle.²⁹ A deep crisis would probably allow for structural changes. Otherwise, an expansionary phase of the cycle would be required to assure governors that they would not lose resources.

In a context of increasing fiscal deficits, the present time is marked by attempts to improve tax collection at the provincial level. In recent years, several provinces have introduced new taxes or reintroduced older ones, increased rates or the valuation of tax bases, or reduced exemptions from existing taxes. In most cases, these decisions have had adverse effects on economic efficiency. In this context, some provinces are likely to be less willing to introduce structural tax reforms.

Assessment of Potential Subnational Tax Handles in Argentina

As discussed in Chapter 1, there is no optimal subnational tax. All potential tax handles have pros and cons in terms of economic (revenue potential, stabilization capacity, and efficiency), social (horizontal and vertical equity, transparency, and accountability), and political objectives. Therefore, tax reforms necessarily involve tradeoffs among objectives, taking into account the specific circumstances of individual countries at given points in time.

Against the background of the political economy factors outlined above, here we review the tradeoffs to be faced in any reform of provincial revenue in the current economic and sociopolitical context in Argentina. To do so, we evaluated the advantages and disadvantages of existing and potential new tax handles, assigned a score to each to reflect the balance of their pros and cons, and ranked the instruments on the basis of the score on unweighted and weighted

²⁹ In Argentina, according to Bonvecchi (2010), economic or policy shocks explain the recurrence and frequency of fiscal reforms and partly explain their type. The federal government tends to use such shocks as an opportunity to strengthen its powers in taxation and other budgetary policies.

bases. The weights used in the weighted ranking favored efficiency and accountability over the potential for revenue mobilization, since the overall tax burden in Argentina is already relatively high. Tables 2.12 and 2.13 present the weights and the rankings, respectively.

User fees, royalties, and property taxes lead both rankings. User fees, underutilized in Argentina, are under the exclusive control of the executive at each level of government. The technical advice is to set fees that cover costs. Royalties collected by subnational governments have several drawbacks (e.g., unevenly distributed tax bases and volatile revenue), but they receive higher ranks when other factors are added to the analysis. More important, according to the constitution, provinces have dominion over the natural resources existing in their territory, so there is little scope for changes of assignment in this area. Property taxes are appropriate in terms of efficiency (particularly those on residential real estate as they are not exportable to other jurisdictions) even at the local level. They have, however, other disadvantages, including high visibility that may discourage politicians from raising them, low elasticity to GDP, and high costs of administration that lead to frequent undervaluation and poor enforcement.

A surcharge on the personal income tax might be an alternative to residential property taxation, but it also has several problems. First, the top marginal tax rate at the federal level is already relatively high, at 35 percent, leaving little room for a provincial surcharge. Second, evasion, avoidance, and a high

Table 2.12 ■ **Weights Used in Ranking Provincial Tax Handles**

	Weight
Potential efficiency costs	191.9%
Mobility of tax base	127.9%
Even distribution of tax base	127.9%
Local accountability	127.9%
Average	100.0%
Sensitivity to cycle	83.1%
Costs of administration	83.1%
Compliance costs	83.1%
Political acceptability - politicians	83.1%
Revenue potential	64.0%
Potential corruption	64.0%
Political acceptability - private sector	64.0%

Source: Authors' estimates.

Note: Normalized to 100.

Table 2.13 | **Rankings of Subnational Tax Handles**

Weighted ranking			Unweighted ranking		
	Points	Ranking		Points	Ranking
User fees	31	1	User fees	31	1
Property taxes	29	2	Property taxes	29	2
Royalties	25	3	Royalties	25	3
<i>Taxes</i>			<i>Taxes</i>		
Value added	20	4	Excises	18	4
Excises	18	5	Financial transactions	16	5
Retail sales	17	6	Value-added	20	6
Stamp	17	7	Stamp	17	7
Financial transactions	16	8	Payroll	16	8
Personal income surcharge	16	9	Retail sales	17	9
Payroll	16	10	Personal income surcharge	16	10
Personal income	13	11	Business value-added	13	11
Business value-added	13	12	Gross sales	12	12
Gross sales	12	13	Personal income	13	13
Corporate income	8	14	Corporate income	8	14

Source: Authors' estimates.

minimum exempt level explain why the federal personal income tax collects only 1.7 percent of GDP; a 10 percent surcharge would yield a modest 0.2 percent of GDP and a higher surcharge is likely to create efficiency problems. Finally, a surcharge on the personal income tax would need coordination between provincial administrations and the federal tax agency (Administración Federal de Ingresos Públicos, or AFIP), which is far from common practice.

The VAT, along with the turnover tax, financial transaction taxes, and royalties, is one of the revenue sources with the greatest potential because compliance costs are relatively low while administrative costs depend on which level of government handles the collection. As long as the AFIP is already collecting this tax, and if the tax bases at the subnational level are defined the same way as at the national level, administrative costs could be kept relatively low (as is the case in Canada). Moreover, a provincial VAT would be preferable to the turnover tax in terms of efficiency costs and of visibility and political accountability. However, administrative complications and political economy considerations (discussed further below) make this option difficult at the present time.³⁰

³⁰ Interviews with heads of tax agencies and economic ministers in several provinces show reluctance to introduce a provincial VAT.

Provincial excise taxes or surcharges on federal excises (e.g., on fuels) would also fare well in terms of efficiency and ease of compliance and administration. Other options (e.g., payroll taxes or provincial corporate income tax) are less attractive because of efficiency costs, low revenue potential, or political economy issues.

There is also, at least in principle, significant scope to increase revenue, improve horizontal equity, and reduce taxpayers' compliance costs by strengthening provincial tax administrations. Artana et al. (2012) report that an analysis of the comparative efficiency of provincial tax administrations, conducted using the data envelopment analysis methodology, shows that wide disparities exist among the collection costs of provincial tax agencies. The lowest cost is about 1.1 percent of provincial tax revenue, and the highest is 10 percent.³¹ Of the 22 provinces analyzed in the study, 12 (mostly the less developed, but also some intermediate provinces) fell below the efficiency frontier. In practice, however, inflexible labor rules that protect even non-performing provincial employees are likely to limit the scope for quick improvements in the efficiency of provincial tax administrations.

Taxpayers' compliance costs are on average about 1.4 percent of taxes paid, and they are highly regressive (equivalent to 0.22 percent of the sales of large companies and 11 percent for small companies) (FIEL, 1993, 2003, 2010b). When compliance costs for each level of government were considered, the federal government accounted for 55 percent of the cost, while it received 88 percent of the taxes paid by the firms in the sample. It follows that the compliance costs with subnational taxes are very high compared to the taxes paid—45 percent of total compliance costs for only 12 percent of taxes paid. The turnover tax is responsible for 16 percent of the total compliance cost and only contributes 9 percent of taxes paid.

Reform Proposals

The design of a strategy to reform subnational revenues in Argentina should begin by recognizing that both the overall tax burden (all levels of government combined) and the vertical imbalance of provinces are high. Therefore, it would be advisable to reduce the federal tax burden at the same time that own-source provincial revenue is increased. In principle, this would be best achieved by reducing discretionary federal transfers to the provinces and using the federal fiscal space thus created to reduce the distortionary taxes that have escalated in recent

³¹ By comparison, collection costs in AFIP amount to about 2 percent of federal tax revenue.

years.³² In practice, however, such policies—which are highly desirable from the efficiency and accountability standpoints—are unlikely to be proposed by the federal government, which uses discretionary transfers to control powerful governors or for votes in Congress.

The current timing is also probably not the most advantageous for subnational tax reform. Fiscal deficits at the provincial level are small and are being financed mostly by the federal government. In addition, there are no strong leaders besides the president, and all levels of government have paid little attention to the problems of the current tax system. In fact, they have moved in the opposite direction at the provincial level by raising the share of the turnover tax at the expense of property taxes and at the federal level by maintaining “distortionary” taxes that were supposed to be temporary emergency sources of financing. In this context, it seems appropriate to explore other reforms that are less radical, but may be more feasible, along with reforms that are more ambitious, but less likely to be adopted.

Among the more radical reforms, we discuss a replacement of the turnover tax with a provincial VAT that would be levied on the same tax base as the federal VAT (to simplify its administration). Each province would be allowed to set its rate within a band to be agreed on by all provinces.³³ This reform option is compared with the alternative of replacing the turnover tax with a retail sales tax.

As mentioned above, a provincial VAT has clear advantages over the turnover tax in terms of efficiency (it avoids cascading and it allows refunds to exports) and of visibility, and thus political accountability of provincial officials to their electorates; however, there are problems as well. The two most important challenges relate to the difficulties of taxing interprovincial trade and to the redistribution of revenue among provinces that would result from replacing the turnover tax with a provincial VAT.

As regards interprovincial trade, to minimize distortions, the provincial VAT would need to be destination-based (i.e., zero-rate interprovincial sales). However, as the experience of the EU demonstrates, this would open doors to fraud, such as the so-called carousel fraud.³⁴ The alternative option of taxing interprovincial

³² We want to reemphasize that simply changing the composition of federal transfers toward automatic transfers would not reduce the provincial vertical imbalance, only marginally ameliorate the soft budget constraint problem, and would likely lead to additional spending, as suggested by our above analysis.

³³ To ensure that provinces would not subsequently reinstate the turnover tax, it would be desirable to include a restriction on doing so under a new revenue-sharing arrangement between the federal government and the provinces.

³⁴ The carousel fraud problem may be smaller in Argentina than in the EU given the existence of a federal VAT. Bird (2007) suggests that in Canada the enforcement of the federal VAT strengthens that of the provincial tax.

sales under an origin-based provincial VAT would require the province in which consumption occurs to refund firms for all the VAT paid in the previous stages of production (including that paid to other provinces). Some provinces may be reluctant to reimburse taxes paid to other provinces, especially if they are strapped for funds. Moreover, as the Brazilian experience demonstrates, an origin-based VAT can create the opportunity for predatory tax competition among the provinces.

A compromise solution would be a provincial VAT collected at origin but with proceeds redistributed on a destination basis through a clearinghouse. If the provinces were ready to accept the same tax base as the federal VAT, it would be possible to adopt a clearinghouse of VAT credits because the provincial VATs could be added to the invoice together with the federal tax. This would provide an additional source of information to help reduce tax evasion.

As regards redistribution of revenue, to estimate the impact of replacing the turnover tax with a provincial VAT on revenue, it is necessary to first estimate the regional distribution of federal VAT revenue. This would approximate the revenue that each province would receive if it decided to replace the turnover tax with a piggyback on the federal VAT (or with a retail sales tax with the same exemptions and rate reductions as the VAT). Also, to assess the impact of the change on the personal distribution of incomes, it is necessary to estimate the effective VAT rates on the various categories of goods and services in the consumption baskets of households in different segments of the income distribution.

Artana et al. (2012) provided a detailed description of the methodology they used for such estimations. Their calculations suggested that, on average, a surcharge of 7.1 percent on the federal VAT would be required to ensure the same revenue as the turnover tax, but there are important differences by province. Specifically, six provinces could match current collections with a surcharge rate lower than 6 percent, but six other provinces would need rates higher than 9 percent to maintain collections.³⁵ Most of the winners would be poor provinces that receive large transfers from the rest of the country (i.e., they have large current account deficits) and about half of the losers would be oil-producing provinces that would lose this easy-to-tax base when taxation is shifted from production to final consumption. Among the large provinces, the City of Buenos Aires would lose revenue, a change reflecting the important contribution of financial services and of large firms that have offices (and expenses) in the City under the Multilateral Agreement. Mendoza and the province of Buenos Aires would be modest gainers from the change.

³⁵ These are rough estimates because they ignore changes in compliance.

However, provincial rates, which would fall within a wide band, would likely create problems (at least for border transactions) and might be complicated from a political point of view. Therefore, it is likely that some compensation, financed by the rest of the country, would be necessary for the losing provinces. This would be possible through amendments in the secondary distribution of the revenue-sharing arrangement, which would probably require a complete overhaul of the transfer system and therefore would be unlikely to be approved.

A revenue-neutral replacement of the turnover tax by a provincial VAT would not reduce the vertical imbalance (abstracting from possible second-round revenue gains, if the reduction of distortions boosted output and thus the tax base). To reduce the imbalance, it would be necessary to reduce the federal VAT rate to make room for a revenue-increasing provincial VAT rate.

The retail sales tax has several disadvantages compared with a VAT. All of its revenue is from retailers, which may be difficult to audit in a country like Argentina where the distribution system is rather fragmented. If the retailer is able to evade sales taxes, the government loses all revenue from the tax, while with a VAT the government still collects some money from manufacturing. Moreover, it is difficult to tax only retail sales. Slemrod and Bakija (1996) quote empirical evidence from U.S. states that show that about 40 to 50 percent of the revenue represents intermediate sales. The advantage of the retail sales tax is that exports are tax free, while with the VAT they might be *de facto* taxed (in spite of being zero-rated by law) by delaying the reimbursement of VAT credits.

A less ambitious, but probably more feasible, option would be to improve the turnover tax by reversing some of the decisions that increased the distortions engendered by the tax in recent years. In order to be credible, this would require an agreement like those signed in the early 1990s under the umbrella of the revenue-sharing system (and with financial penalties on provinces that do not comply). It is possible that some of the needed counter-reforms have constitutional support (e.g., using higher rates on manufacturers located in other provinces may be interpreted as a barrier to domestic trade that is forbidden by the constitution). Some problems (like chronic excess withholdings) could be eliminated if the provinces agreed that disputes with taxpayers should be resolved by an interprovincial court (similar to the dispute resolution mechanism under the existing Multilateral Agreement), but with a more important role for impartial judges rather than the Ministries of Economy of each province, as is currently the case under the agreement. If primary activities and manufacturing were exempt from the tax and there was some coordination in taxing

financial intermediation and transport, the cascade effect would be reduced substantially.³⁶

Finally, as regards property taxes, it would be desirable to move rapidly to implement a national cadaster (as proposed in 2007 but not yet implemented) to address some of the problems observed in recent years. In a more comprehensive reform, the national cadaster would be solely responsible for the valuation of all properties in the country. This cadaster could be “owned” by the 24 provinces, but it would be less subject to local political interference by being accountable to the 24 governors and the federal government. Moreover, a national cadaster could use the same criteria to value property nationwide and impose a minimum adjustment for inflation.³⁷ Provinces could undo the final effect of this decision on their voters by reducing the tax rate, but an external valuation would eliminate the fiscal externality that today encourages some provinces to underestimate the value of properties. In other words, the federal government uses the fiscal value as the base of the tax on personal assets for many properties. To avoid a windfall benefit for the federal government, it may be necessary to reduce the federal tax rate on properties located in provinces that agree to participate in the national cadaster, thus providing an incentive for provinces to adhere to the reform.

³⁶ It would be better to extend the exemption to financial activities and transport, but, as they are important sources of revenue for some provinces, this proposal is unlikely to receive much support.

³⁷ A permanent assessment of the market value of properties is very expensive. Therefore, some general indexation of tax value is necessary even with an efficient cadaster.

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Step on the Gas: Bolivia's Reliance on Natural Resource Revenue

3

THIS CHAPTER FOCUSES ON OPTIONS TO REFORM THE REVENUE SYSTEM OF SUBNATIONAL GOVERNMENTS IN BOLIVIA; IN PARTICULAR, OPTIONS TO REDUCE DEPENDENCE on natural resources and strengthen own-source revenue.¹ Such reforms would apply especially to prefectures, which depend entirely on natural resource rents and have no tax autonomy.

The 2009 Bolivian constitution confirmed current tax assignments for municipalities (local government), while strengthening their tax regulatory powers. The changes for prefectures (intermediate level government) were minimal, although the central government is empowered to partially or fully devolve tax bases to subnational governments. It is within the context of possible devolution that the options for prefectures presented in this chapter should be viewed. For municipalities, the chapter stresses the importance of expanding collection of existing taxes, which will require not only better tax administration, but also greater efficiency in providing basic services and infrastructure.

Based on a set of widely used criteria, this chapter singles out a number of tax instruments or tax bases that could be assigned exclusively to regional governments or shared with the central government. It assesses the main advantages and disadvantages of these instruments and their impact by simulating the revenue they could generate, and shows that there would be a number of feasible options to increase the tax autonomy of subnational governments in Bolivia.

The chapter describes the current system of intergovernmental relations in Bolivia, particularly emphasizing financing. It later assesses the scope to expand tax collection at the municipal level, with special emphasis on property taxes, and discusses options for new tax instruments for the prefectures.

¹ This chapter is an abridged and edited version of Brosio (2012).

Current State of Decentralization; Implications of Recent Reforms

Public Sector Size and Constitutional Arrangements

Pending the full implementation of the provisions of the 2009 Constitution,² Bolivia remains a unitary state with two levels of subnational government: municipalities and prefectures. Despite having the lowest per capita GDP in South America, Bolivia has a relatively large public sector. Total public sector expenditures to GDP is well above 30 percent. Tax revenue is also relatively high, considering the country's GDP, and Bolivia exerts a tax effort that is above the Latin American average. In recent years, the tax-to-GDP ratio has been stable at around 27 percent (Table 3.1). In Latin America, only Argentina and Brazil have higher ratios, but their economies are much more developed.

An important feature of Bolivian taxation is the tax on oil and gas, which constitutes a third of total tax revenue. While this does not imply an overarching dependence on natural resource revenue, it indicates that Bolivia's revenue capacity is subject, to a substantial extent, to fluctuations in the international prices of these resources, as well as to their continued production.

With respect to expenditures, Bolivia is relatively decentralized, although measuring the degree of decentralization is difficult and controversial. The various sources of available data are neither consistent nor complete, particularly with reference to consolidation of operations between the various levels of government. According to the International Monetary Fund (IMF) Government Finance Statistics database (IMF, 2011), in 2007 (which for Bolivia was the latest available year), the central government was responsible for 55.1 percent of general government expenditures, the prefectures for 25.8 percent, and the municipalities for the remaining 19.1 percent. These data, however, overestimate the importance of subnational governments because the salaries of teachers and health personnel are included in the expenditures of prefectures, while in reality these public employees are fully managed by the central government. When the correction is made using government sources (Table 3.2), the prefectures' share of expenditures declines by about two-thirds, and the total share of subnational expenditures declines to 28.4 percent in the same year.

The share of expenditures fluctuates quite dramatically. The subnational governments' share of expenditures increased substantially during the 2000s, situating Bolivia slightly below federal systems. Since that time, their share

² The constitution mentions the possibility of creating regions by fully or partially merging existing prefectures, which would also devolve part of the prefectures' responsibilities to the newly created regions. This would move Bolivia closer to a federal model.

Table 3.1 | Public Sector Expenditures and Revenues as Percentage of GDP, 2007–12

	2007	2008	2009	2010 Preliminary	2011 Projected	2012 Projected
Total expenditures	31.8	35.3	35.6	31.5	34.6	35.5
Current expenditures	20.0	24.3	23.0	20.8	21.6	22.4
Total revenue	34.4	38.9	35.8	33.2	35.4	36.4
Tax revenue	27.8	28.5	26.9	26.3	28.3	29.5
Hydrocarbons related revenue	9.0	11.3	12.6	10.2	11.2	11.8

Source: IMF (2012).

has declined substantially, exemplifying the risks of relying on gas-dependent transfers.

In fiscal terms, municipalities are much more important than prefectures, with nearly double the total expenditures. In addition to providing typical urban services, such as garbage collection, sewerage, street cleaning, and lighting, municipalities are also assigned—although the transfer has not yet taken place—the responsibility of providing a few other services, such as education and healthcare. According to the literature, these broader responsibilities should be assigned to an intermediate level of government (i.e., the prefectures in Bolivia) because they create problems, particularly for smaller municipalities. Prefectures have traditionally been a deconcentrated level of government, and their present structure still embodies many features of deconcentration.

The system of intergovernmental relations in Bolivia is also characterized by a deep vertical imbalance. Transfers represent almost all of the prefectures' revenue (91 percent) and more than two-thirds for municipalities (Brosio, 2012).

Table 3.2 | Subnational Government Expenditures as a Share of General Government Expenditures, 2000–11 (in percent)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 (projected)
Municipalities	10.6	11.9	14.6	13.9	16.7	14.7	16.9	16.1	16.3	17.1	13.9	13.9
Prefectures	6.7	0.5	7.0	6.0	7.0	9.9	14.2	12.3	8.9	8.9	7.1	6.3
All subnational	17.3	12.4	21.6	19.9	23.7	24.6	31.1	28.4	25.2	26.0	21.0	20.2

Source: Unidad de Análisis de Políticas Sociales y Económicas (UDAPE).

The 2009 Constitution introduced a number of changes in the structure of subnational governments:

- A new self-empowered status for all subnational governments
- Self-empowered subnational governments for Indigenous Communities
- Regions, at the initiative of prefectures

However, the implications of the constitutional changes—and of the new decentralization framework law—for subnational finances cannot yet be fully assessed.

The policy responsibilities assigned to the prefectures have increased; however, the expenditure implications of the most important changes are not yet clear. The policy areas assigned to prefectures still focus on promoting economic and social development and providing infrastructure; however, there is no specific level of expenditures clearly associated with these functions. Running and recurrent costs are small compared to capital costs. In other words, it is difficult to find a benchmark that could help evaluate the financial implications of the changes. The additional responsibilities assigned to municipalities are fewer and also related to promoting economic and social development and providing infrastructure.

The new local governments that will be created by the Indigenous Communities will, in principle, have to provide the full range of local services, plus some additional ones, such as providing justice in accordance with local laws. The impact of the new local governments on total subnational expenditures presumably will not be substantial because in many instances the transformation will be mostly nominal, with existing local government units (municipalities) converting into a new form of government. In other cases, existing local units will be split or reshaped, which would impact expenditures mostly through missed economies of scale that are likely to be modest at any rate. Moreover, the population involved in the transformation is likely to be limited (although there are divergent views on this issue). There is no apparent reason for the newly created Indigenous Communities to have a tax and revenue regime different from that of other subnational governments, but, clearly, their poverty and isolation should be taken into consideration in the intergovernmental transfer system.

The largest impact of the process of decentralization on expenditures and revenues is related to transferring education and healthcare personnel to the local level. This is a highly sensitive issue that has not yet been defined in the legal texts, although, as mentioned above, salaries for personnel in these areas are in the budgets of the prefectures. The effective transfer of responsibilities in these areas would have significant financial implications given the weight of

these two areas in general government expenditures (approximately a fifth and a seventh of total public expenditures for education and healthcare, respectively). There are, however, no indications that the transfer of these two functions will take place any time soon. Teachers are resisting the change for fear of losing their pension rights and of being moved to more remote areas. The delay in transferring healthcare personnel is occurring for similar reasons.

The Current Subnational Revenue System

Municipalities

Bolivian municipalities rely increasingly on transfers from the central government to finance their expenditures. Own-source taxes were equivalent to 44 percent of transfers (recurrent plus capital transfers) in 2000; by 2011, this ratio had declined to around 17 percent (Table 3.3).

Transfers—consisting mainly of shared revenue—have grown much faster than own-source revenue because of the increasing share of the direct hydrocarbons tax, a royalty on gas levied by the central government and transferred to municipalities in 2005. The main criterion for distribution is population size. The allocation of transfers on the basis of population should put municipalities with the largest flows of immigrants at a disadvantage because population data is calculated by census year while demand for services is related to the current population.

When the international price of gas rises, it yields a large increase in the hydrocarbons tax and, consequently, in transfers. Dependence on gas reduces incentives for municipalities to expand collection of their own-source revenue.

The importance of taxes and fees is closely related to the size, in terms of population, of municipalities. Metropolitan municipalities collected on average the equivalent of US\$25.10 in taxes per capita in 2008. The smallest municipalities (with less than 15,000 inhabitants) collected on average US\$5.70 per capita. The corresponding figures for fees and various contributions were US\$7.90 and US\$3.70, respectively (Brosio, 2012).

Municipal taxes include the property tax, the tax on vehicles, and the tax on transfers of property and vehicles. These are typical local taxes, although the tax on vehicles is frequently assigned to the intermediate level of government, such as regions or prefectures. These taxes satisfy most of the requirements prescribed for subnational taxation, such as low mobility, little distortion, low level of exportability, and even distribution of the tax base across the territory. They also have substantial revenue potential. Comparative data on reliance on the property tax in Latin America (Table 3.4) puts Bolivia at the top of the list. Collections of the

Table 3.3 ■ **Municipal Revenue by Source, 2000–11 (in millions of Bolivianos)**

	2000												
	2000	(%)	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 (projected)	2011 (%)
Total revenue	2,212.5	100.0	3,257.0	3,256.8	3,983.3	4,394.5	6,391.9	7,516.6	9,247.7	9,259.2	9,875.8	12,832.9	100.0
Recurrent revenue	851.7	38.5	892.4	959.6	1,180.1	1,220.6	1,293.4	1,456.2	1,697.8	1,708.3	1,988.7	2,515.3	19.6
Own-source taxes	574.7	26.0	583.2	616.0	784.8	761.6	848.8	966.4	1,166.1	1,210.9	1,442.1	1,705.9	13.3
Recurrent transfers	1,174.4	53.1	1,214.0	1,318.6	1,698.7	2,133.0	3,680.1	4,397.4	5,929.3	5,681.8	6,336.5	8,256.7	64.3
Capital transfers	136.1	6.2	1,079.9	774.4	935.4	909.6	1,291.9	1,209.0	1,078.4	1,571.2	1,303.5	1,837.0	14.3
Total expenditures	2,050.6	92.7	3,028.8	3,148.5	3,970.8	3,840.8	5,371.8	6,936.2	8,861.0	9,693.7	8,258.5	10,294.9	80.2
Recurrent expenditures	851.0	38.5	906.6	950.9	872.1	872.9	1,025.9	1,064.7	1,185.2	1,389.7	1,464.9	1,703.3	13.3
Capital expenditures	1,146.8	51.8	2,049.9	2,112.9	3,015.4	2,892.7	4,257.4	5,774.9	7,573.4	8,183.9	6,662.0	8,406.2	65.5
Gross capital formation	1,130.5	51.1	2,036.2	2,096.3	2,992.0	2,863.3	4,203.7	5,712.0	7,437.8	8,077.9	6,566.7	8,263.0	64.4
Balance	161.9	7.3	228.3	108.2	12.4	553.7	1,020.1	580.3	386.7	(434.4)	1,617.2	2,538.1	19.8

Source: UDAPE.

property tax were 0.62 percent of GDP, which was slightly higher than in Chile and Colombia; substantially higher than in Argentina and Brazil; and about four times higher than in Ecuador, Guatemala, Mexico, and Peru.

Bolivia's relative performance is heightened considering the size of the potential tax base. The estimated per capita base of the property tax in Bolivia is one-fourth of that of Argentina, one-third of that of Brazil, and about half of that of Ecuador and Peru. In terms of urban property, which represents by far the largest component of the tax base, the differences are much larger. At the same time, it should be recognized that Latin American countries hardly exploit the potential of the property tax. The share of collections in relation to GDP in Latin America is smaller than the average of developing countries, and one-eighth of the average of OECD countries. Bolivia fares slightly better than the group of developing countries.

A widely cited problem with Bolivian municipal taxation is the lack of discretionary power. For the property tax, a progressive schedule of rates is set by the central government. Each year, a presidential decree determines the values associated with the parameters that municipalities must apply to determine the value of each individual property, such as the zone, age, quality, and slope of land. Municipalities are responsible for subdividing their territory into a predetermined number of zones. They are also responsible for the annual reassessment, based on inflation, of the basic element for the determination of the tax base, which is the value per square meter of both land and buildings (to which the various parameters apply). However, few municipalities have updated these values in

Table 3.4 ■ **Reliance on the Property Tax as a Share of GDP in Latin American Countries, 1990–2007 (in percent)**

	1990–94	1995–99	2000–04	2005–07
Argentina	0.65	0.62	0.59	0.44
Bolivia	—	—	0.69	0.62
Brazil	0.37	0.41	0.42	0.44
Chile	0.55	0.65	0.70	0.59
Colombia	0.25	0.46	0.48	0.54
Ecuador	0.10	0.13	0.13	0.14
Guatemala	0.09	0.07	0.14	0.16
Mexico	0.18	0.18	0.18	0.18
Paraguay	—	0.36	0.39	—
Peru	—	—	0.17	0.16
Uruguay	0.52	0.70	0.71	—
Latin American countries	0.33	0.40	0.38	0.36

Source: Sepúlveda and Martínez-Vázquez (2008).

recent years; thus, the tax base is lagging behind the evolution of market prices. The municipalities also have some discretionary power in selecting the parameters used to determine the value of each property. In fact, these parameters vary to some extent between municipalities. More importantly, municipalities are also responsible for keeping the register of properties, and thus for determining the coverage of the tax, by updating the register of taxpayers, adding new properties, and recording changes in the characteristics and thus in the valuation of the existing properties.

In summary, despite their lack of discretionary power, Bolivian municipalities potentially have significant scope to determine the volume of collections deriving from their taxation powers. The most important component of this capacity, which is frequently neglected in the literature, is urbanization policies. Specifically, municipalities can react to the lack of discretionary powers by reducing red tape (e.g., by expediting building and renovation permits) and by rapidly urbanizing new areas to satisfy the demand for housing from the migrating population. This happens particularly in the large cities, to which rural inhabitants migrate and create related demand for more housing.

New construction should take place in planned and serviced areas, and should be authorized by local officials. When building proceeds without authorization, there is a corresponding increase in illegality and informality. Since they were built without legal authorization, the new buildings cannot be registered and subjected to taxation. Estimates provided by local officials in La Paz and Cochabamba suggest that the ratio of illegal, non-registered buildings to registered ones is not less than 20 percent. All else being equal, this leads to a loss of the same amount of revenue in terms of value, since new buildings on average have the same value as old ones.

In other words, the capacity to provide infrastructure and services determines the use of taxing powers. Obviously, delays in infrastructure are caused by lack of funds. Thus, municipalities find themselves in a vicious cycle: they are slow to provide infrastructure and services, in part because they do not have adequate funds, but, since they are slow, they do not collect enough taxes. These considerations highlight the need to improve the functioning of all areas of local administration.

Administration of the property tax is itself deficient. In addition to the considerable lag between construction of new properties and their inclusion in municipal registries, there are considerable arrears in payments that, for the large cities, are estimated to represent about 10 to 15 percent of tax collections. Although a growing number of municipalities use the services of RUAT (Registro Único para la Administración Tributaria Municipal, or the single registry for municipal

tax administration),³ this is not enough to substantially improve administration, since all of the essential components of assessing and collecting the property tax remain with the municipalities.

For taxes on vehicles, the identification and valuation, as well as the tax rate, are all determined by the central government. RUAT handles most of the administration, maintains the register, and determines the tax base (value of vehicles) according to tables provided by the central government. In essence, municipalities are only responsible for collecting the tax (and the arrears).

Finally, revenue from the transfer tax on property and vehicles is also highly influenced by the factors discussed above. In principle, the tax on transfer of property should apply to the effective (market) value of the transaction. In practice, however, municipalities accept assessed values that are considerably lower than market values, hence the low collections.

Prefectures

The own-source revenue of prefectures is currently almost irrelevant, representing only 2 percent of total revenue, with 90 percent coming from transfers, which, according to the official classification, also includes royalties.⁴ Oil and gas are the predominant base on which revenue (excluding minimal own-source revenue and loans) assigned to the prefectures is levied. The *Hydrocarbons Law* mandates an 18 percent royalty for oil and gas. Of this, 11 percentage points go directly to the producing prefectures, 1 percentage point goes to Beni and Pando (prefectures), and the remaining 6 percentage points go to the National Treasury.

According to the *Hydrocarbons Law* and other legislation, the hydrocarbons tax, which is a royalty levied at a rate of 32 percent on the gross value of production, is allocated among the different levels of government according to a four-layered process (Table 3.5). The first allocation determines the shares going to the producing and non-producing prefectures and the central government. The second allocation guarantees that the producing prefectures receive at least as much as the non-producing ones. It also makes a special allocation from the National Treasury to the three most populous cities. The third allocation defines how the funds received by each prefecture have to be allocated between its budget, its

³ RUAT's tasks with respect to property taxes are receiving lists of properties from municipalities, updating the tax base by cross-referencing the information from municipalities with the tables on parameters issued yearly by the central government, and returning the list to the municipalities so they can collect the taxes.

⁴ This is not easily seen in the official figures because the data mixes local taxes with revenue derived from the hydrocarbons tax, which is levied centrally.

Table 3.5 Allocation of Royalties and Hydrocarbon Tax Collections among Levels of Government

Instrument	First allocation	Second allocation	Third allocation	Fourth allocation
Royalties 18 percent	Amount corresponding to tax rate of: 11 percent to producing prefectures; 1 percent to Beni (2/3) and Pando (1/3) prefectures; 6 percent to central government			
Hydrocarbons tax 32 percent	Total collections divided as follows: 12.5 percent to producing prefectures; 31.25 percent to non-producing prefectures; 56.25 percent to central government	Compensation from central gov't to producing prefectures that receive less than 6.25 percent of hydrocarbons tax. 8 percent of hydrocarbons tax to municipalities of the three most populous prefectures, according to population.	Hydrocarbons tax distributed to prefectures as follows: 24.39 percent to prefectures; 66.99 percent to their municipalities; 8.62 percent to their public universities	30 percent hydrocarbons tax received by each prefecture and municipality goes to the pension fund

Source: Brosio (2012).

municipalities, and its public university. Finally, since 2008, a 30 percent share of the hydrocarbons tax received by prefectures and municipalities has to be paid back to the central government to finance the pension fund. The fourth allocation of the hydrocarbons tax produced a large shift in the sharing rates between the central government and the local governments between 2007 and 2008. The share of rent from hydrocarbons going to prefectures declined by almost 50 percent, to 30 percent from 46 percent. The decrease in the share going to municipalities was also substantial, although somewhat less, declining to 17 percent from 22 percent (Brosio, 2012).

With respect to minerals, royalties are the only instrument used to share the rent among the different levels of government. Minerals play a minor role compared to oil and gas. In 2009, royalties on minerals represented less than one-fourth of royalties on gas. The royalty rates are determined by the central government, and the sharing mechanism is much simpler than for hydrocarbons. Pursuant to a law

and regulation passed in 2007, all mineral royalties are distributed, with 85 percent going to the prefecture, and 15 percent to the municipality where the mine is located. There is no allocation to other municipalities in the prefecture. As in the case of revenue from hydrocarbons, there are strict rules for using these royalties. For prefectures, 85 percent of the transfer must be spent on public investment and 10 percent on mineral exploration and development, and on environmental projects. For municipalities, 85 percent must be spent on public investment, half of which must be spent on projects in the area affected by mining operations and half on public investment in the municipality. The 85 percent investment earmark makes sense from the point of view of the volatility of this revenue, reducing the problem of financing recurrent expenditure. At the same time, it neglects the need to consider running costs when planning new investment projects.

The remaining transfers are paid to prefectures, namely the special tax on hydrocarbons and derivatives. This special tax—an excise tax levied on gas and oil products such as gasoline and diesel—is also related to hydrocarbons, making total transfers completely dependent on price and output fluctuations of natural resources. The only discretionary instrument available to prefectures to increase revenue is borrowing. This is risky because prefectures have no tax handles to service their debt and cannot predict future trends in transfers because of their dependence on the gas price and output fluctuations.

The distribution of transfers mostly benefits the gas-producing prefectures and the smallest prefectures (due to some unevenness in their allocation). Per capita allocations of transfers (Table 3.6) range from a minimum of about US\$19 for La Paz, to a maximum of US\$457 for Tarija, which is the richest prefecture. Own-source revenue does not modify the distribution of total revenue, which is highly debatable when considering equity and efficiency. The smallest prefectures have huge per capita revenue, while the largest prefectures have the lowest, despite the concentration of poverty in urban areas.

Recent Developments in Tax Assignments

In June 2011, the Bolivian parliament passed a law, called *Classification of Local Governments' Property Taxes Law*, which assigns existing tax bases to different levels of government. The law, which is mandated by the constitution, introduces (or reinforces) a system based on the intergovernmental separation of tax bases. It does not substantially change current assignments, continuing the dependence of prefectures on natural resources and confirming the clear preference for having municipalities fiscally stronger than prefectures. Most tax bases will remain under the central government, which maintains the right, also conferred by the constitution, to devolve some of its tax bases to subnational governments.

Table 3.6 | Per Capita Revenue of Prefectures, 2008

Prefectures	Population (2001)	Own- source revenue per capita (U.S. dollars)	Transfers per capita (U.S. dollars)	Other revenue per capita (U.S. dollars)	Total revenue per capita (U.S. dollars)	Per capita GDP, 2006 (Bolivianos)	Share of gas production, 2006 (%)
Chiquisaca	531,522	3.8	74.7	9.9	88.4	7,505	5.8
La Paz	2,349,885	1.2	18.8	4.1	24.1	9,139	—
Cochabamba	1,455,711	1.2	36.8	4.1	42.1	9,878	11.8
Oruro	392,451	1.9	83.5	3.6	89.0	10,898	—
Potosí	709,013	0.6	97.6	1.0	99.2	6,245	—
Tarija	391,226	4.1	457.2	1.4	462.7	29,468	60.1
Santacruz	2,029,471	0.9	33.9	6.5	41.3	12,744	22.3
Beni	362,521	0.3	92.8	9.8	102.9	7,509	—
Pando	52,525	—	378.4	4.3	382.7	14,576	—
Bolivia	8,274,325	1.5	141.5	6.3	149.3		100

Source: FAM (2009).

The municipalities will keep their existing tax bases, namely urban and rural property, vehicles, and transfer of property and vehicles. They will also receive a consumption tax on *chicha* (a fermented drink derived from maize and brewed mostly by farmers, the consumption of which is concentrated in a few prefectures) and the possibility of levying taxes on damages to the environment caused by exhaust fumes. In principle, municipalities will have full regulatory and administrative powers with respect to their tax bases. Consequently, the present frequently lamented situation of missing discretionary powers should disappear, although the central government will retain its final say as municipal decisions are submitted to a newly created agency in charge of coordinating subnational fiscal decision making. At the same time, the law reaffirms assigning the administration of municipal taxes to municipalities, making more conjectural the possibility of shifting it to prefectures, unless done on a purely voluntary basis.

Tax assignments to prefectures remain very limited. Specifically, prefectures will be assigned (i) the inheritance tax, currently assigned to the central government; (ii) the taxation of motor aircraft and boats (it is not specified whether commercial airliners can also be taxed, but previous versions of the law suggest that they will be exempt); and (iii) the possibility of levying taxes on damages to the environment not attributable to vehicles, minerals, hydrocarbons, or electric energy.

The inheritance and gift tax plays a minuscule role in Bolivia, as it does elsewhere. In 2009, this tax amounted to 0.12 percent of national tax collections.

Revenue from this source, which amounts to less than 2 Bolivianos per capita, would contribute minimally to prefecture revenue. Low collections are related, among other factors, to the very restricted tax base (only real property and vehicles are included) and to low tax rates (1 percent for transfers between parents and children and between spouses; and 10 to 20 percent for other cases). Basically, this tax suffers from the same problems as the municipal tax on transfers of property and vehicles. Clearly, the prefectures could strive to expand collections, but they would have to rely exclusively on the tax rates and, with greater difficulty, on the assessed value that is currently determined by the municipalities for properties and by the central government RUAT for vehicles. Prefectures cannot expand the tax base, since the law states clearly that only property subject to registration can be included in the tax base.

The other two tax handles reserved for prefectures also have very modest revenue potential. If we exclude commercial airliners, the tax base on planes and boats is small, given the ease of evading taxation (by using foreign registries) and the fact that Bolivia, having no outlet to the sea, has only a small fleet of boats.

Environmental taxation, a potentially powerful tax instrument, is currently untapped in Bolivia. There are, however, a number of questions about its real potential. First, the most important economic activities currently carried out in Bolivia and that heavily affect the environment (minerals, hydrocarbons, and electricity) are excluded from the assignment to prefectures. Second, the tax base assigned (environmental impact) is only vaguely defined and would require specification before prefectures could use it. For example, would water usage or water pollution be the tax base assigned to prefectures? Would prefectures be allowed to impose a carbon tax? In any case, only pollution from households and from economic activities not related to minerals, hydrocarbons, and electricity could be taxed by prefectures. This would considerably reduce the base for environmental taxation. Finally, taxes on environmental pollution are quite small around the world, mostly because of concerns about their impact on production costs and consequently on the level of output. This concern may well also affect whether prefectures are prepared to use environmental taxes.

Options for Mobilizing Subnational Revenues

Suggesting the introduction of new sources of tax revenue for Bolivian subnational governments could be interpreted as implying that the country's overall tax burden is low and should be increased. This is not the view espoused in this chapter. The Bolivian tax burden is relatively high, the public sector has run primary surpluses close to 3 percent of GDP in recent years, and the gross public debt is

moderate, around 33 percent of GDP. Consequently, there is no need to increase the overall tax burden, nor is there a need to increase the total revenue of sub-national governments before new expenditure responsibilities are transferred to them. There is, however, a need to develop tax instruments that can replace or reduce the dependence on revenue from hydrocarbons.

Thus, the increase in revenue that would be generated by the tax instruments proposed in this section should be offset by corresponding reductions in national taxes and intergovernmental transfers. We also suggest that sub-national governments be given some discretionary power in determining the tax rates for new tax instruments. In this way, they would be able to adjust the level of their expenditures to the preferences of their citizens by equating marginal benefits from expenditures to marginal costs from taxes.

Municipalities

No attempt is made here to identify new tax instruments for municipalities. The three main instruments that are currently available and that have been confirmed by the above-mentioned law on the classification of tax bases have revenue potential high enough to fund expenditure responsibilities, at least until the responsibility for administering education and healthcare is transferred to the municipalities. International experience shows that the property tax can provide adequate revenue for local governments to finance the basic urban services for which they are responsible. This applies, obviously, to the large and wealthy municipalities, while the smaller, poorer ones must rely on transfers. In addition, Bolivian municipalities have been assigned the tax on vehicles, which is usually assigned to the intermediate level of government, and the tax on transfer of property and vehicles, for which no clear pattern of assignment prevails, but whose revenue is potentially substantial. Clearly, the main reform to be undertaken in Bolivia is increasing incentives for municipalities to strengthen their tax collection.

This section provides an estimate of the potential of the property tax to finance municipal expenditures. It reinforces the argument that, on average, current municipal tax handles are large enough to meet the financing requirements of current municipal expenditure assignments. There is a huge variation across Bolivian municipalities in the degree to which they benefit from the property tax. Per capita collections are, as expected, positively associated with the size of municipalities, but also with the effort exerted in the municipal administration of the tax. Referring to the largest Bolivian municipalities, Table 3.7 offers some indication of the variation in effort. The share of taxpayers to properties in the population (fourth column from the left, which illustrates the effort made to reach taxpayers) varies substantially among municipalities and seems to be an

Table 3.7 | Basic Property Tax Indicators in a Sample of Large Municipalities

Prefecture	Number of properties registered (2011)	Population (2010)	Ratio of properties to population (%)	Total collections 2009 (Bolivianos)	Collections per property (Bolivianos)	Collections per capita (Bolivianos)
Cochabamba	118,587	618,384	19.2	89,481,050	755	145
El Alto	190,338	960,767	19.8	44,681,614	235	47
La Paz	157,365	840,209	18.7	175,437,044	1,115	209
Montero	16,313	98,539	16.6	4,143,497	254	42
Oruro	73,055	232,265	31.5	21,071,103	288	91
Potosi	32,871	167,439	19.6	7,438,040	226	44
Sacaba	50,778	179,847	28.2	7,579,430	149	42
Santa Cruz de La Sierra	209,247	1,651,436	12.7	152,544,497	729	92
Sucre	52,154	306,540	17.0	25,668,508	492	84
Tarija	36,206	211,018	17.2	18,783,512	519	89
Trinidad	14,598	97,625	15.0	4,672,616	320	48
Villa Montes	4,374	27,550	15.9	1,021,599	234	37
Yacuiba	11,411	138,414	8.2	4,382,606	384	32

Sources: Number of properties: RUAT; population: Instituto Nacional de Estadísticas (INE); collections: Ministry of Finance.

important determinant of collections. In fact, the variation is much higher in the per capita collections (last column on the right) than in collections per property (next to last column on the right). This implies that the municipalities listed in the table do not differ much in their treatment of taxpayers.

Frequent changes in mayors and in governing coalitions may explain part of the large variance in municipal tax collections. Because Bolivia does not have a local civil service, the changes in political orientation bring with them a reshuffling of managerial staff. Consequently, municipalities frequently restart their actions almost from scratch after a new administration is installed. Moreover, there is no link between the transfers from the central government and municipal tax collection. This means there is no direct incentive to expand collections in order to receive more grants. The lack of direct incentives has been compounded by the growing weight in revenue transfers derived from gas and oil. In principle, this affects all municipalities equally and cannot be used to explain the variance in behavior. On the other hand, the lack of incentives, based on the method of allocating grants and their rapid recent increase, favors the emergence of

idiosyncratic factors, such as mayors and political coalitions with different interests and degrees of capacity to carry out reform.

The gap between actual and potential tax collections and the factors that determine it can be explained using the approach developed by Bahl and Martínez-Vázquez (2008) summarized by the following equation:

$$TC = \frac{TC}{TL} \cdot \frac{TL}{TAV} \cdot \frac{TAV}{TMV} \cdot \frac{TMV}{MV} \cdot MV \quad (1)$$

where TC = total collections; TL = tax liability: tax due by taxpayers as determined by municipalities; TAV = taxable assessed value as determined by municipalities; TMV = taxable market value; and MV = market value.

The first term on the right-hand side, property tax collections over tax liability, can also be called the collection ratio. If all taxpayers were punctually and fully paying their liabilities, the ratio would equal 1 and no leakage would exist. The second term on the right-hand side is the share of tax liabilities over taxable assessed value, which corresponds to the average statutory tax rate. Clearly, this a crucial element in transforming the potential tax base into collections. In this case, leakages derive only from mistakes in calculations. The third term represents the assessment ratio, or the share of taxable assessed value in taxable market value, by which the law establishes the share of the taxable market value on which the tax liability is computed. There is no logical need to have an assessment ratio lower than one. However, in many cases, a ratio less than one is used to promote the public's acceptance of the tax and to reduce complaints about the assessment criteria. One way to reduce the assessment rate in practice is by not updating the assessed value for inflation. This can also be referred to as missed revaluation. The fourth term is the ratio of taxable market value to full market value. It summarizes all of the effects of preferential treatments, exemptions on the tax base, and errors in assessing the true market value of the property. Errors also include the failure of the tax administration to identify properties and thus to include potential taxpayers. The product of the fourth and fifth terms in the equation represents the tax base that is actually available for taxation.

We use this equation in an attempt to estimate the loss of potential collections for Bolivian municipalities, using the limited available information. Starting from the first term, evaluating La Paz and Cochabamba (which represent about 20 percent of the total population, but a much larger share of property tax collection) situates the collection ratio at around 85 percent. There is no reason to assume that the second term has to be different from the statutory rate, particularly considering the calculation is done by RUAT. The third term plays a crucial role in Bolivia, as in

most countries, as a result of the infrequent adjustment of assessed values to inflation. In recent years, practically no Bolivian municipality has made such an adjustment. Considering that the average annual inflation rate between 2006 and 2011 was nearly 7.5 percent, and assuming that missed adjustment refers to only those five years on average,⁵ the third term would have a value of 0.5 percent.⁶ The fourth term represents the inability, or unwillingness, of municipalities to assess property values and to identify new properties and taxpayers. Interviews with municipal representatives revealed that the ratio in question is around 85 percent, meaning that non-registered properties and/or non-updated values account for 15 percent of the total. In summary, the ratio of the assessed tax base to the market value should be equal to $0.85 \times 0.65 \times 0.85 = 0.47$ percent.

This means that tax collections lost due to policy decisions and administrative weaknesses amount on average to more than 50 percent of potential collections. This is clearly a huge gap, the elimination of which would require a wide range of actions by municipalities that should be taken steadily but with determination. These actions include both changes in legal discipline and administration aimed at (i) giving discretionary power to municipalities to adjust collections to their perceived expenditure needs, (ii) stimulating individual municipalities to better exploit their revenue potential, and (iii) extending coverage, so that the burden on current taxpayers could be lowered without changing collections.

There are at least four main ways to improve local tax collection and to reduce the huge disparity of outcomes. The first is to create a local civil service. Presently, efforts to improve local tax administration are quite sporadic because of the frequent change in mayor and council. The second instrument is improving urbanization policies to speed up development of new areas and construction of new housing. This is both a national and local task that involves changes in legislation to reduce red tape and improve administration by speeding up delivery of building and renovation permits and construction of infrastructure in the new areas.

The third instrument is redesigning transfers from the central government. Linking transfers to tax capacity, or to the effective use of the tax potential, is not an easy task. It requires information about the potential rather than the assessed tax base which, in the case of property, is difficult to estimate. Clearly, this task

⁵ In large cities such as La Paz that obviously set the trend, the revaluation was stopped at the beginning of the past decade. This makes our evaluation quite cautious.

⁶ There is no official information on the evolution of housing prices. Some evidence suggests that in large cities prices increase faster than the overall price index, due mostly to high migration. Thus, using the overall price index to update inflation leads quite likely to an underestimate of the adjustment.

would be facilitated by building regional, if not national, cadasters to ensure uniform evaluation criteria and practices. Using statistical indicators is difficult because (i) there are no good proxies for the value of real property and (ii) if there were, and if all stakeholders accepted them, they would likely be unavailable at the municipal level. This is the case for GDP, for example, which is frequently, but not unanimously, considered a proxy for real property value.

A simpler, second-best alternative would be to promote municipal tax collection efforts by linking transfers—or a portion of them—to increasing collections or other indicators of such efforts. To be more specific, a share of the total amount of grants could be allocated according to the difference, for each municipality, between the rate of growth of its collections and the national average growth rate. Growth rates should be calculated as moving averages over a three- or four-year period to avoid sudden changes and strategic behaviors. Alternative and complementary indicators could be increases in the number of taxpayers and decreases in tax arrears. A fourth option would be to assign the administration of the property tax to the prefectures.

Prefectures

Structural reform of prefectures is a high priority. Prefectures have a system of financing that is incompatible with the smooth functioning of a decentralized government due to the following:

- They have no discretionary power to determine their revenue.
- Their current revenue sources depend completely on highly cyclical natural resources.
- Allocations to individual prefectures are highly unequal and incompatible with the objective of providing a homogeneous set of services, as mandated by the constitution.

Hence, options for reform should focus on identifying revenue instruments capable of providing prefectures a degree of autonomy in determining the tax burden they impose on their citizens.

This suggests that the new revenue instruments should be either own-source taxes or shared tax bases, since both allow discretion in determining their burden through tax rates and defining the tax base. With such instruments, the level of revenue (and thus of expenditures) is determined according to local preferences and with reference to the current assignment of expenditure responsibilities. Future devolution of responsibilities can be accommodated with an increase in the allowed tax rates for the same tax instruments, depending on the size of their

tax base. In the case of large new expenditure responsibilities, however, increased expenditure needs should be accommodated by devolving other tax instruments.

Dependence on natural resources could be eliminated in a simpler way by partially or completely replacing royalties and/or the hydrocarbons tax with a share of national tax collections allocated according to population size or other criteria. The origin principle—implying that shared tax collections are allocated according to the area where they are generated—is not appropriate in Bolivia because of the tax administration practice of giving privilege based on firms' headquarters. However, shared revenue does not have the same benefit as own-source revenue in terms of subnational accountability.

The remainder of this section presents a preliminary exploration of possible own-source revenue for the prefectures. The selection of revenue instruments is made on the basis of suggestions derived from international good practice; suggestions advanced in Bolivia by different stakeholders, including international organizations; and the author's views. They are evaluated based on the following widely accepted criteria, which qualify them as proper subnational revenue sources in Bolivia's specific circumstances:

- **Stability of revenue over time:** Important for effective financial planning by prefectures, especially considering they do not have the same access to short-term financing as the central government.
- **Size of potential tax base:** If substantial, a small set of tax instruments can be used and nuisance taxes can be avoided.
- **Present exploitation of the tax base:** A country-specific factor that means tax policy can be rebalanced when substantial tax bases are not exploited.
- **Link with policy responsibilities of prefectures:** Means benefit taxation can be implemented.
- **Intergovernmental equity:** Requires that new revenues do not amplify disparities between prefectures, hence reducing the need for equalization transfers.
- **Interpersonal equity:** Although this is a typical central government concern, using tax instruments that are highly discriminatory among individuals can create resistance at the local level and add to the central government's problems.
- **Intergovernmental efficiency:** Lack of tax exportability is required for subnational taxes designed to foster accountability and can be mitigated in the case of benefit taxation.
- **Administrative feasibility** (the administrative cost of new instruments): This is a crucial criterion considering the number of tax instruments that

could raise administrative costs substantially without necessarily producing more revenue. Keeping costs manageable depends on information about local tax bases and on the possibility of using the present administration and the best opportunities available (e.g., payment of taxes by units situated at the lower stage of the production and distribution process) to collect the new taxes.

- **Political acceptability:** This is generally a monumental problem in Bolivia because of the traditionally low standing of the political class in the eyes of the most numerous and poorest segments of the population. Changes in taxes, charges, or administrative costs frequently provoke violent reactions. The introduction of any of them has to be very carefully weighed and prepared.

The revenue potential of the various proposed tax instruments is estimated pragmatically. Specifically, the revenue potential of each instrument (and hence the rates that can be applied to the estimated tax bases) is assessed based on the experiences of other countries that use, or have used, similar instruments and adapted to the extent possible to the relevant circumstances of Bolivia. In this approach, for each prefecture, the potential of each of the revenue instruments considered can be compared with the actual revenue from existing sources that the new ones are meant to replace. This allows the differential impact among prefectures to be considered and suggests the eventual need for reform of the transfer system. Different combinations of instruments are also considered. Some indication of the possible range of variation in the tax rates is also given.

In this section, we compare the revenue from the assessed sources with revenue derived from the allocation of the hydrocarbons tax. These allocations are paid to all prefectures, albeit in a way that produces significant disparities. Obviously, the prefectures that would lose with the change—the natural resource-rich prefectures, such as Tarija—could be compensated by increasing transfers. Prefectures that would gain could receive less in the form of transfers.⁷ In both cases, however, this should take place after careful consideration of their overall fiscal capacity. In order to reduce volatility, transfers should derive from the entire pool of national taxes and not only from the hydrocarbon tax. Further, allocations should be structured in such a way as to include incentives to stimulate tax effort.

⁷ In the immediate future, the transfers could be the hydrocarbon tax, but in the medium term, equalization transfers need to be introduced.

Sharing Real Property and Vehicle Tax Bases between Municipalities and Prefectures

Currently, real property and vehicle taxes are assigned exclusively to the municipalities, but sharing these tax bases does occur. In France, taxes on property are shared among three different levels of government: municipalities, prefectures, and regions. This system has been in place for the first two levels since the French Revolution and was extended to the regions after their creation in the 1970s. Efficient central government administration of the taxes facilitates this sharing; however, each local government determines the tax rate within nationally determined brackets.

Technically, it would be quite simple to implement such sharing in Bolivia. The central government would simply need to introduce a new tax rate (or preferably tax brackets), over and above the existing municipal rate, for prefectures. Politically, it would certainly be more difficult, because municipalities would likely have strong resistance to the change, and the recent tax base classification law would have to be modified. Municipalities could be induced to cede part of their rights on this tax base only in exchange for more dynamic tax bases, such as the personal income tax, through a municipal surcharge.

Centralizing the administration of the property tax at the prefecture level could be beneficial for both levels of government. The advantage could be substantial for small and medium-sized municipalities because of possible economies of scale. At the same time, centralization of tax administration is only part of the problem, because urbanization and infrastructure policies are at least equally crucial, and they are the responsibility of municipalities.

Simulations of the revenue potential of a prefectural surcharge on the municipal property and vehicle taxes based on the following assumptions are presented in Table 3.8:

- **Reactions of taxpayers and tax administrations:** All simulations conducted for this chapter assume that taxpayers do not react to tax increases by reducing compliance. This may not be too far from the truth in view of the small size of the proposed changes. The possibility of leakages in tax administration cannot be excluded, although there are two opposite forces at work. If administration is conducted by the municipalities, the incentive to work could decline since part of the revenue would go to another level of government. On the other hand, prefectures would have an incentive to exert pressure on, or to offer help to, municipalities. The reverse would happen if administration of the tax was shifted to prefectures.

Table 3.8 ■ Estimates of Potential Collections of a Departmental Surcharge on Real Property and Vehicles, 2009

	Municipal property tax (Bolivianos)	Municipal vehicle tax (Bolivianos)	Number of municipalities	Municipalities with no data available	Departmental tax on real property (Bolivianos)	Departmental tax on vehicles (Bolivianos)	Departmental tax on real property (% of GDP)	Departmental tax on vehicles (% of GDP)
Chuquisaca	26,943,857	8,961,005	28	2	4,041,579	1,344,151	0.074	0.025
La Paz	227,835,144	71,698,142	80	30	34,175,272	10,754,721	0.112	0.035
Cochabamba	11,994,829	51,152,669	45	7	17,99,574	7,672,900	0.097	0.041
Oruro	22,515,203	12,333,592	35	16	3,377,280	1,850,039	0.049	0.027
Potosí	11,536,374	7,976,909	38	14	1,730,456	1,196,536	0.021	0.014
Tarija	26,883,183	14,538,389	11	0	4,032,477	2,180,758	0.029	0.015
Santa Cruz	199,945,677	88,265,447	56	2	29,991,852	13,239,817	0.091	0.040
Beni	8,948,180	1,675,383	19	0	1,342,227	251,307	0.037	0.007
Pando	1,833,660	1,798,748	15	12	275,049	269,812	0.025	0.025
Total	538,436,107	258,400,284	327	83	78,966,192	38,760,041	0.535	0.229

Source: Author's calculations based on data provided by municipal authorities.

- **Tax rates:** Rates would be set at levels equivalent to approximately one-sixth of the national rate, providing additional revenue for prefectures of 15 percent of the existing tax. We also simulated a higher rate, the results of which are noted when we comment on overall results.

The simulations suggest that, under these assumptions, the combined revenue potential for the prefectures from the two taxes would be roughly 0.1 percent of GDP.

Tourism Tax

A tourism tax is a very old instrument. Though it has only marginal revenue potential outside the main tourist areas, in these areas it can help overcome the issue of the size of the public service, which is determined based on the entire population, not only the resident population. A tourism tax is clearly inspired by the benefit principle—the tax burden compensates the municipality for tourists' use of public services. This tax is not exported, and the services correspond to the tax burden. A tourism tax is also increasingly used for ecological purposes. Tourists use the natural environment and, in accordance with economic efficiency considerations, they should pay for its use. Taxes on tourism have recently been revamped in a number of countries, particularly major tourist destinations. While there is a good economic rationale for tourism taxation, there is also considerable political opposition to it from the tourism industry. Since tourism taxes are typically levied on hotels and other tourism-related accommodations, they are highly visible and are typically resisted by the concerned sectors.⁸

Bolivia's tourism sector represents almost 10 percent of exports and 2 percent of GDP (Brosio, 2012). These percentages are slightly higher than those for all South American countries, except Uruguay. The number of recorded foreign visitors is around half a million annually. This number grew rapidly in the 1990s, but it has stalled in recent years. Nights spent in hotels and other tourist accommodations total around 2 million units.

⁸ A frequently quoted example of the resurgence of tourism taxes is the eco-tax introduced by the government of Spain's Balearic region in the early 2000s. This tax produced substantial revenue from the tourism industry on the Balearic Islands, but it was repealed after four years because of strong opposition from the tourism sector. In Italy, however, the tax has been reintroduced for municipalities in the context of inter-governmental relations reform and under pressure from municipalities benefiting from tourism.

Table 3.9 ■ **Estimates of Collections from a Tourism Tax, 2009**

	Collections 2009 (Bolivianos)	Revenue by prefecture (%)	Nights in hotels	%	% of GDP
Chuquisaca	289,288	4.6	106,269	4.0	0.005
La Paz	2,014,079	32.3	880,926	33.3	0.007
Cochabamba	794,778	12.8	308,350	11.7	0.004
Oruro	363,467	5.8	163,760	6.2	0.005
Potosí	167,105	2.7	72,067	2.7	0.002
Tarija	334,974	5.4	125,408	0.7	0.002
Santa Cruz	2,002,327	32.1	878,518	33.2	0.006
Beni	137,974	2.2	54,847	2.1	0.004
Pando	126,546	2.0	54,234	2.1	0.012
Total	6,230,538	100	2,644,380	96	.0047

Source: Author's calculations based on data from INE and UDAPE.

Estimates of collections are presented in Table 3.9 and are based on the following criteria:

- **Tax rates:** Rates are specific and scaled according to the category of the accommodation, ranging from the equivalent of US\$0.50 per night for five-star hotels to US\$0.25 for the cheapest accommodations. Local governments could be permitted to vary the rates (e.g., +/- 25 percent).
- **Allocation between prefectures:** Distribution of revenue could be done according to the number of nights spent in hotels and other accommodations, weighted by the number of establishments in each category.
- **Tax administration and collection:** Administration could be assigned to each prefecture's agency in charge of tourism, or be delegated by the prefectures to the corresponding agencies in the larger cities (where they exist). This is a solution frequently used around the world. A fee covering the administration cost could be permitted.

The results somewhat underestimate the potential revenue, since only the ten largest cities are considered. On the other hand, the calculations assume full compliance, which probably results in an upward bias.

Prefectural Consumption Tax on Gasoline and Diesel

This is a widely considered option in Bolivia. Fuels for vehicles are already centrally subject to a special tax on hydrocarbons, part of which is transferred to

prefectures based on population. Prefectures could be allowed to levy their own tax on diesel and gasoline within brackets established by the central government, thus creating a new subnational surcharge on the national tax. There are sound economic grounds for such a move. Consumption of vehicle fuel provides a broad tax base that grows as income rises, although it can be subject to the vagaries of oil price fluctuations, which affect the quantity consumed. In general, fuel consumption is correlated with general consumption, making the allocation of the tax among regional governments more equal (or equitable) than the allocation of taxes on income.⁹ Although the tax base is mobile, small differences in tax rates among prefectures should not generate much mobility.

However, there are considerations that may recommend against such a tax. First, introducing the tax as a truly local tax (i.e., taxing local consumption) could be administratively complex because, as a consumption tax, it should be collected not where the fuel is produced but where it is purchased—at gas stations. Alternatively, and more efficiently, the tax could be collected from wholesale traders, who would be asked to declare the location of their customers (the gas stations). If this change were made (as in Italy, with its regional surcharge on gasoline and diesel), administrative costs would be low. Second, gasoline and diesel prices are highly regulated in Bolivia. Due to the politically sensitive nature of this issue, prices have not been increased for a long time. The tax rate has a floor of 3.5 Bolivianos per liter but changes according to economic conditions. The special tax on hydrocarbons works as a cushion between fluctuating oil prices and the final regulated price. In December 2010, a sudden decision by the government to raise the price of gasoline by 73 percent was met with riots that forced the government to recall the change. Though these factors do not augur well for a local tax, the government must continue its efforts to abandon its policy of fixed prices for vehicle fuels. Small, gradual changes are more politically viable than large, abrupt changes. Moreover, making prefectures the beneficiaries of the tax could make it more politically feasible by widening the number of people who favor it.

The current system used for the special tax on hydrocarbons should be used to collect the new tax, with sellers of fuel required to detail the volumes sold by prefecture. Leakages of collections would be kept to a minimum because total assessed volumes of sales should be the same for the special tax and the local tax. Simulations of revenue, provided in Table 3.10, are based on the following assumptions and criteria:

⁹ Cossio Muñoz-Reyes (2005) analyzed the special tax on hydrocarbons and found that it has an almost perfect proportional impact on consumption, which should translate into a proportional regional impact.

Table 3.10 ■ **Estimates of Collections of a Prefectural Vehicle Fuel Tax, 2009**

	GDP, 2009 (in thousands of Bolivianos)	%	Private vehicles	%	Prefectural vehicle fuel tax (Bolivianos)	% of GDP
Chuquisaca	5,466,642	4.5	31,880	3.9	1,832,785	0.034
La Paz	30,626,803	25.2	211,589	26.2	12,164,276	0.040
Cochabamba	18,545,544	15.2	177,413	21.9	10,199,494	0.055
Oruro	6,830,816	5.6	53,929	6.0	3,100,384	0.045
Potosí	8,332,607	6.8	26,520	3.3	1,524,638	0.018
Tarija	14,127,458	11.6	45,854	5.7	2,636,152	0.019
Santa Cruz	33,114,415	27.2	251,495	31.1	14,458,476	0.044
Beni	3,595,380	3.0	10,216	1.3	587,319	0.016
Pando	1,087,079	0.9	9*	—*	517	—
Total	121,726,744	100	808,905	100	46,504,041	0.027

Source: Author's estimates based on data regarding GDP and private vehicles provided by INE.

* No effective data are available for Pando because of an existing Free Zone Area exemption.

- **Tax rates:** The rate would amount to 1/20 of the national rate, roughly corresponding to an average of 0.2 Bolivianos per liter, with the possibility that individual prefectures could increase it to 0.22 Bolivianos per liter. Simulations with a larger tax rate (0.4 Bolivianos per liter) are provided in the summary table.
- **Projected revenue:** In “normal” years, the special tax on hydrocarbons provides around 2 percent of GDP. Collections fell in 2008 and 2009 because of the gap between the international oil price and the fixed retail price. Thus, in a normal year, the local tax on fuels should provide collections of roughly 0.04 percent of GDP.
- **Allocation among prefectures:** Distribution of the revenue should be calculated according to effective consumption; however, this information is not currently available. Therefore the simulation uses the number of private vehicles as a proxy.

Prefectural Tax on Electricity Consumption

Around the world, electricity is usually taxed by imposing national excise taxes and value-added taxes (VAT) in addition to direct taxes on producing firms. The tax base is large and stable, its growth is correlated with GDP growth, and it has two distinct components. The first component is domestic consumption, which is particularly suited for local governments since it is not exportable. The tax is roughly proportional to total household consumption, and allocation of the tax base to local governments should thus largely correspond to the proportion of

electricity in general consumption. The second component is the electricity used by businesses and local governments for street lighting. This component is usually larger than the first but is more unequally distributed among local governments. A local tax on it is clearly exportable for firms that export part of their production beyond local borders.

From an administrative point of view, these two components are the most suitable for subnational governments, since energy firms can collect when they bill customers. There are no problems in assigning taxpayers to the relevant local government because they are taxed where they consume. Where permitted, local governments tend to use this tax. For example, in Italy there are both municipal and provincial excise taxes on electricity consumption that piggy-back on the national excise tax. In Bolivia, the price of energy is closely regulated and partly subsidized through the sale of natural gas to producers on concessional terms. The cost of electricity, like the cost of gas and diesel, is a politically sensitive issue because of its impact on incomes of poor households, although this impact can be lessened through appropriate tariffs that favor small consumers.

Table 3.11 presents revenue simulations based on the following assumptions and criteria:

- **Tax rates:** Rates are specific and amount to 50 Bolivianos per Mwh on household consumption and 25 Bolivianos per Mwh on non-household consumption. These amounts are slightly less than one-fourth of the corresponding tax rates levied in Italy by municipal and provincial governments, respectively. A minimal level of consumption could be exempted, reducing collections correspondingly.
- **Collection:** Energy providers would use the existing billing system, which, along with modest tax rates, practically excludes new evasion.
- **Allocation:** Taxes would be distributed among prefectures according to effective consumption.

The simulations suggest that this tax could yield 0.13 percent of GDP to the prefectures.

Personal Income Tax Replacing VAT-CR

A personal income tax replacing the Value-Added Tax, Complementary Regime (VAT-CR) would clearly be a major change to the Bolivian tax system. It is a politically sensitive topic, meaning that the risks of this option should be carefully analyzed. If such a tax is to be introduced, it must be well designed and presented.

Table 3.11 | Estimates of Collections of Departmental Electricity Tax, 2009

	Consumption of electricity (Mwh)		Collections (Bolivianos)				% of GDP
	Households	Total	Households	Non-household	Total	%	
Chuquisaca	63,869	170,353	3,193,450	2,662,100	5,855,550	3.7	0.107
La Paz	527,511	1,101,132	26,375,550	14,340,525	40,716,075	25.6	0.133
Cochabamba	333,000	841,207	16,650,000	12,705,175	29,355,175	18.5	0.158
Oruro	61,765	303,037	3,088,255	6,031,800	9,120,055	5.7	0.134
Potosí	27,679	248,487	1,383,950	5,520,200	6,904,150	4.3	0.083
Tarija	51,491	87,372	2,574,550	897,025	3,471,575	2.2	0.025
Santa Cruz	731,482	1,736,418	36,574,100	25,123,400	61,697,500	38.8	0.186
Beni	27,455	47,806	1,372,750	508,775	1,881,525	1.2	0.052
Pando	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total	1,824,252	4,535,812	88,019,155	67,789,000	159,001,605	100	0.0878

Source: Author's calculations based on data from INE and UDAPE.

Note: n/a = no effective data available (due to an existing Free Zone Area exemption).

Such a reform was originally proposed in 2003 and, following a public debate, was rejected by the population and labeled a huge tax.

Bolivia does not currently levy a comprehensive personal income tax. Income accruing to individuals is taxed under three different tax regimes. The first is the VAT-CR, plus interest from saving accounts, rents of property, and royalties from intellectual property. From wages and salaries, the equivalent of two minimum monthly wages is deducted as an initial allowance. Calculated in this way, the tax base is subject to a 13 percent flat rate. However, taxpayers can deduct the VAT paid on their purchases. If they cannot produce VAT invoices, they are allowed an additional deduction of two minimum monthly wages. The tax, which ultimately is equivalent to a tax on savings, was introduced mainly as an instrument to improve collection of the VAT by inducing buyers to request invoices from vendors.¹⁰ However, the system has not proved to be very effective. A secondary market for VAT invoices has flourished, and the tax authorities have not been able to take advantage of the increased use of invoices. Moreover, tax compliance costs are estimated to be very large (Berhan and Jenkins, 2005) and practically equivalent to the total amount of

¹⁰ For an illustration of the tax and of its problems, see Bird (2006), Byrne and Jenkins (1993), Berhan and Jenkins (2005), and Cossio Muñoz-Reyes (2005).

taxes collected.¹¹ For 2009, revenue from the VAT-CR represented only 2.4 percent of total national tax collections.

The second tax on income accruing to individuals is the tax on business income, which taxes professional services at a rate of 25 percent of half of their gross income. Revenue from the business tax is substantial, but it is difficult to estimate the share attributable to self-employment.

The third instrument is the so-called temporary and simplified regimes under which income earned from the handicraft, transport, and retail sectors are taxed. Revenue from the special regimes amounts to less than 1 percent of total national revenue, despite the large number of taxpayers (almost 150,000), because of the extremely low tax rates that apply to capital and not to income.

There is no real economic or equity rationale for this system of income taxation. Reform should involve merging the current three regimes into one, starting gradually with either a proportional or a mildly progressive rate to ease the administrative burden and the likely negative reaction from taxpayers. The new tax should be national, with the possibility of piggybacking by prefectures, meaning they could levy their own tax within nationally determined parameters on a nationally determined tax base. Simulation of the revenue from this tax is very complex.¹² Table 3.12 shows revenue estimates on prefectures piggybacking with a flat tax rate of 1 percent on the nationally determined tax base. There are two conservative options that differ according to the initial allowance from taxable income. They consider the vast informal sector and the difficulties of introducing a full-fledged personal income tax with an inclusive tax base, where only taxpayers with a tax identification number and/or who do business with other taxpayers that have tax identification numbers are considered. This should be considered the floor of the new tax.

Prefectural Retail Sales Tax to Complement the National VAT

The revenue potential of a sales tax could be considerable, depending on the rate chosen, and it is reasonably dynamic and stable. The reform would be administratively quite complex, if this tax is to be a truly local tax, because it would need to cover all retailers. In addition, its relation to the VAT would have to be defined. A much simpler version of this proposal—sharing a part of the VAT revenue on a derivation basis—has been circulated in Bolivia. The simpler version would

¹¹ For example, wage earners send the list of their invoices to their employer monthly, and the employer deducts the VAT paid by the employee.

¹² A step-by-step description of the methodology and assumptions used in the simulation is presented in Annex II of Brosio (2012).

Table 3.12 ■ **Estimates of a Departmental Piggyback Tax on a National Personal Income Tax, 2007**

	Collections with 4 minimum wages initial allowance (Bolivianos)	Percent share by prefecture	Percent of GDP	Collections with 2 minimum wages initial allowance	Percent share by prefecture	Percent of GDP
Chuquisaca	5,231,504	5.3	0.096	8,893,668	5.4	0.163
La Paz	25,663,982	26.0	0.084	38,868,622	23.6	0.127
Cochabamba	18,655,740	18.9	0.101	30,139,652	18.3	0.163
Oruro	6,021,165	6.1	0.088	11,693,526	7.1	0.171
Potosí	5,428,919	5.5	0.065	8,893,668	5.4	0.107
Tarija	8,291,440	8.4	0.059	16,469,755	10.0	0.117
Santa Cruz	21,616,969	21.9	0.065	34,915,881	21.2	0.105
Beni	4,145,720	4.2	0.115	8,399,575	5.1	0.234
Pando	3,553,474	3.6	0.327	6,258,507	3.8	0.576
Total	98,707,622	100	1.000	158,274,347	100	1.761

Sources: Author's calculations based on INE, Estadísticas de Mercado del Trabajo.

not increase fiscal accountability because only collections of the VAT would be shared, not the retail sales tax. At the same time, implementation would not be easy. It would require information that is not currently available, since the VAT is paid by headquarters of firms that, in turn, are concentrated almost exclusively in two prefectures. The other problems with the sales tax are more general and well known. With only one point of collection, evasion of the sales tax may be easier than for the VAT. Moreover, it is difficult to avoid imposing the sales tax on business sales, leading to cascading and the distortion of business inputs.

Income-Type VAT

Technically, this would be an origin-based VAT, calculated using the subtraction method rather than the more usual invoice-credit method. That is, the tax would be levied directly on an accounts-based measure of value-added, calculated for each taxable entity by subtracting allowable purchases from revenue. Exports as well as domestic sales would be subject to the tax, and imports would be exempt. This is why it is an origin-based tax. A tax of this nature is used in relatively few countries. Its closest model is the Italian IRAP, which has been assigned to the regions, with constraints on the range of tax rates set (Box 3.1). IRAP-type taxes have some disadvantages. First, unlike a corporate income tax, it is likely

Box 3.1 The Italian IRAP

The IRAP, introduced in 1998, is a tax payable by businesses on the difference between their sales and the sum of their material purchases and depreciation (i.e., an origin-based income-type VAT)—payment is determined by the subtraction method. Basically, the tax base is the sum of wages, profits, and interest.

The statutory central rate is 4.25 percent, but regions can vary this by ± 1 percentage point and can differentiate the rate by sectors. Regions make some use of their autonomy, mostly by lowering tax rates applied to agriculture and cooperatives, and by increasing rates applied to financial services, insurance, and the energy sector. General government is also subject to IRAP, with a tax base that is limited to wages and salaries paid and with a tax rate of 8.5 percent. Even with its present relatively low tax rates, revenue from the IRAP is substantial at almost 2.5 percent of GDP. The tax broadly represents more than one-third of VAT collections, one-fourth of personal income tax collections, and more than two-thirds of corporate income tax collections. These collections are more equally distributed across regions than VAT or corporate income tax because government (which is relatively more important in Southern Italy) also pays. IRAP has some attractive features on the administration side.

that only part of IRAP-type taxes may be creditable against foreign (specifically U.S.) corporate taxes.¹³ This may deter inward investment, other things being equal. Second, it is an additional tax on labor and thus may reduce wages and/or increase unemployment. Third, it can act against exports because of their non-deductibility from the tax base.

This kind of tax would provide substantial revenue in Bolivia, even with a modest rate, because of its vast base, which is substantially the same as that of the VAT. It would be simple to administer because its payers would already be subject to the VAT. Thus, additional record-keeping requirements would be minimal. However, its apportionment among prefectures would be problematic because of the headquarters issue mentioned above.

Prefectural Tax on Gambling and Lotteries

Such a tax would involve shifting the recently created tax on gambling and lotteries from the central government to the prefectures, taking into account that the regulation of gambling and lotteries has been assigned by the 2009 Constitution to prefectures as a concurrent responsibility.

¹³ The U.S.-Italy bilateral tax treaty may be a guide here, given the similarity of the tax to the IRAP. In that treaty, only the part of the IRAP that taxes pure profit (i.e., not wages, interest, or rents) is creditable against U.S. corporate income tax.

Taxes on gambling are increasingly used throughout the world to provide funds to intermediate levels of government, and they have the potential to produce considerable, albeit somewhat volatile, revenue. For example, in Italy, collections from the tax on gambling and lotteries are quite substantial, amounting to almost 2 percent of total national and subnational taxes and social security revenue, corresponding to 0.9 percent of GDP (Corte dei Conti, 2011). In Australia, gambling taxes represent more than 10 percent of state own-source revenue, or 0.5 percent of GDP (Australian Productivity Commission, 2010). However, such a shift is likely to be opposed by Bolivia's central government given the recent creation of the tax.

Summary of Estimates

Table 3.13 presents a summary of the estimates based on (i) the tax rates illustrated in the text (scenario 1) and (ii) using higher tax rates or, for personal income

Table 3.13 | Summary of Results of Estimates (in percent of provincial GDP)

	Property tax	Vehicles tax	Tourism tax	Fuel tax	Electricity tax	Piggyback on personal income tax	Total of new taxes
Scenario 1							
Chuquisaca	0.074	0.025	0.005	0.034	0.107	0.096	0.340
La Paz	0.112	0.035	0.007	0.040	0.133	0.084	0.410
Cochabamba	0.097	0.041	0.004	0.055	0.158	0.101	0.457
Oruro	0.049	0.027	0.005	0.045	0.134	0.088	0.349
Potosí	0.021	0.014	0.002	0.018	0.083	0.065	0.203
Tarija	0.029	0.015	0.002	0.019	0.025	0.059	0.148
Santa Cruz	0.091	0.040	0.006	0.044	0.186	0.065	0.432
Beni	0.037	0.007	0.004	0.016	0.052	0.115	0.232
Pando	0.025	0.025	0.012	—	—	0.327	0.389
Scenario 2							
Chuquisaca	0.1232	0.041	0.005	0.067	0.214	0.163	0.614
La Paz	0.1860	0.059	0.007	0.079	0.266	0.127	0.723
Cochabamba	0.1617	0.069	0.004	0.110	0.376	0.163	0.824
Oruro	0.0824	0.045	0.005	0.090	0.267	0.171	0.662
Potosí	0.0346	0.024	0.002	0.037	0.166	0.107	0.370
Tarija	0.0476	0.026	0.002	0.037	0.049	0.117	0.279
Santa Cruz	0.1509	0.067	0.006	0.087	0.373	0.105	0.789
Beni	0.0622	0.012	0.004	0.033	0.105	0.234	0.449
Pando	0.0422	0.041	0.012	0.095	0.000	0.576	0.671

Sources: Author's calculations based on INE, Estadísticas de Mercado del Trabajo.

Table 3.14 Distribution of Per Capita New Taxes, Hydrocarbon Tax, and GDP by Prefecture

	Per capita new taxes		Per capita hydrocarbon tax allocation	Collections		GDP
	Scenario 1	Scenario 2	2008	Scenario 1	Scenario 2	2009
	(Bolivianos)	(Bolivianos)		(%)	(%)	
Chuquisaca	29	52	190	4.2	4.2	4.5
La Paz	45	79	32	28.6	27.9	25.2
Cochabamba	46	83	57	19.3	19.3	15.2
Oruro	53	101	265	5.4	5.7	5.6
Potosí	22	40	120	3.9	3.9	6.8
Tarija	41	77	304	4.8	33.0	11.6
Santa Cruz	53	97	37	32.6	2.0	27.2
Beni	19	37	248	1.9	0.9	3.0
Pando	54	93	1,438	1.0	4.2	0.9

Sources: Previous tables and, for hydrocarbon tax collections, Ministry of Finance.

tax, using a larger tax base (scenario 2). For scenario 2, the property and vehicle taxes are 15 to 25 percent higher than current levels, the fuel and electricity tax rates are doubled, and the initial allowance of the personal income tax is reduced to two minimum wages. Under this scenario, revenue would increase substantially.

Although the panoply of new instruments proposed would use low tax rates, particularly the rates in scenario 1, the reallocation impact would be significant, as shown in Table 3.14. Large prefectures would gain, since they are all either non-producers or only modest producers of gas and oil. Small prefectures and gas-producing prefectures would lose, as expected. Compensating transfers to poor prefectures and temporary grants to producing prefectures would be necessary to facilitate the transition to the new system and to minimize opposition. All prefectures would be able to partially adjust collections to their needs by varying their tax rates. The range of variation suggested here is quite modest by international standards at ± 10 percent. The range could be increased over time, after monitoring the impact of the changes.

Assessment of Options

The evaluation criteria mentioned above were applied to each of the revenue instruments considered in Table 3.15. Four scores were assigned. The criteria were formulated to allow non-contradictory interpretation of the scores. For

Table 3.15 ■ Matrix of Criteria for Evaluating Proposed Instruments

	Property tax	Vehicle tax	Tourism tax	Fuel tax	Electricity tax	Personal income tax	Retail sales tax	Income-type VAT
Size of potential tax base	High	High	Very low	High	High	High	High	High
Present non-exploitation of the tax base	Medium	Medium	High	Medium	High	High	Medium	Low
Link with responsibilities of prefectures	High	High	High	High	High	Medium	Medium	High
Intergovernmental equity: limited disparities between prefectures	High	Medium	Low	Medium	Medium	Medium	Medium	Medium
Intergovernmental efficiency: lack of tax exportation	High	High	Low	Medium	Medium	High	High	Low
Interpersonal equity: discrimination between individuals	Medium	High	Medium	Medium	Medium	High	Medium	Medium
Administrative feasibility: proper attributing of collections to prefectures	High	High	High	Low	High	High	Very low	High
Political acceptability	Medium	Medium	Medium	Low	Low	Medium	Medium	Medium

Source: Author's elaboration.

example, the criterion for introducing new tax instruments in Bolivia was formulated in terms of present non-exploitation of the tax base. The highest score was given to the tourism tax, since this tax base is not currently taken advantage of in Bolivia. Obviously, these scores reflect the author's evaluation, which is largely based on what was learned from the literature. The scores confirm the superiority of the property tax as a local tax. The difference between the property tax and other taxes, however, is not huge. The table highlights the administrative burden associated with the introduction of a retail sales tax and the paucity of collections from the tourism tax.

Introducing new taxes for subnational governments is not frequently welcomed by the presumed beneficiaries, who usually prefer to rely on transfers or shared revenue. The idea of directly asking citizens for money appeals more to researchers than to politicians. Usually, subnational governments are only willing to seek more own-source revenue when cuts in transfers from central government become unavoidable or when commitment from the central government weakens. Also, raising own-source revenue is more appealing to wealthy local governments than to poor localities.

Because local governments prefer to avoid introducing new taxes, in Bolivia, the change would be facilitated if it were presented at a time of declining gas revenue, which would negatively impact central government transfers to the prefectures. Further, new taxes should be accompanied by a system of equalization transfers based on fiscal capacity.¹⁴ Considerable information about the size of the potential tax base would be required for such equalization transfers. However, for the personal income and vehicle taxes, the information requirements are satisfied by the assessment of the tax base by the central government. For the energy and fuel taxes, an agency that is not controlled by the prefectures can provide the necessary information. The only important tax for which determination of tax capacity would be difficult is the property tax.

Conclusions

This chapter discusses an analysis of the system for financing subnational governments in Bolivia, with a view to strengthening reliance on own-source revenue. Subnational governments would be more accountable and more able to prepare a sound financial foundation for further devolution of functions.

¹⁴ For example, see Ahmad and Brosio (2011) and Boadway and Shah (2007) for discussions of equalization transfers based on revenue capacity.

The policy prescriptions differ between municipalities and prefectures. For municipalities, the chapter focused on improving the present set of tax instruments, which in principle are structured in a way suited to the local level of government. For prefectures, a basket of a relatively large number of new tax instruments was considered and evaluated. The fact that so many instruments have potential can be considered a weakness; however, it sends a message that tax autonomy is not hindered by a lack of possible instruments.

Compared to the rates levied by the central government in Bolivia or in other countries that make use of the tax instruments considered here, relatively low tax rates were used in the revenue simulation. The intent of using such low rates was to moderate the increase in the tax burden for highly sensitive tax bases, thus avoiding substantial economic and social dislocations, and foreseeable political opposition.

Obviously, the instruments would not be introduced simultaneously, and the governments would have to select one or a few instruments. Collections and the burden for taxpayers would then focus on those few options, or the burden would be split among a number of instruments that make administration more cumbersome. A positive feature of the proposed instruments is their relatively low administrative cost. Indeed, the proposed taxes could be collected by existing agencies and, in the case of energy and fuel taxes, by the firms that produce and distribute them.

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Elusive Goal: Brazil's Subnational Revenue System Reform

4

COMPARED WITH THE REST OF LATIN AMERICA, AND MANY FEDERAL COUNTRIES AROUND THE WORLD, BRAZIL IS CHARACTERIZED BY A HIGH DEGREE OF REVENUE decentralization at the state level (intermediate level of government), where own-source revenue accounts for over 9 percent of GDP.¹ In contrast, municipalities (local level of government) rely more heavily on transfers from the higher levels of government, with own-source revenue amounting to only about 2 percent of GDP or 6 percent of the total tax burden.

Substantial reliance by subnational governments on own-source revenue has significant advantages in terms of increased accountability to the electorate, closer linkage of subnational taxes to benefits from spending, greater conformity with local preferences as to the size and composition of the tax burden, and greater predictability of resources for the subnational budgets.

The Brazilian subnational tax system, however, is fraught with significant flaws that are widely recognized as adversely affecting efficiency, equity, and competitiveness. The main problem is the heavy reliance of state finances on a mixed-origin/destination-based value-added tax (VAT) (the Imposto sobre a Circulação de Mercadorias e Prestação de Serviços, or ICMS), which has a wide range of effective rates for goods and services across the country. This has led to predatory tax competition (the so-called fiscal war), de facto cascading, and high compliance costs for taxpayers. At the local level, many municipalities do not appear to adequately exploit the important tax bases (services and urban properties) assigned to them.

¹ This chapter is a revised and updated version of Ter-Minassian (2012). The author is grateful to J.R. Afonso and F. Azevedo for providing updated data for the tables and charts.

To date, reform efforts have been stymied by the significant losses for some of the states that would result from a shift to a more neutral, destination-based VAT with a uniform base across the nation. State authorities are recognizing the urgency of such a reform, however, as they see their revenue eroded by the fiscal war. Further, the competitiveness of Brazilian enterprises is being hampered by the cumulative and high compliance costs of the ICMS in an environment with a high real exchange rate and the weak performance of manufacturing exports.

The system of intergovernmental transfers in Brazil also suffers from important shortcomings. Transfers include a number of mandatory revenue-sharing arrangements, as well as other transfers mostly mandated by laws and linked to specific expenditure programs (in particular, in education and health). The fact that the base of revenue sharing excludes federal social contributions (some of which are turnover-type indirect taxes) has created a strong incentive, in recent years, for the federal government to increase these contributions. This has had significant efficiency costs, since these levies are still partly cumulative and earmarked to social spending, thereby compounding the already high degree of rigidity of the Brazilian budget. A special sharing arrangement (currently in the process of substantial revision) applies to revenue from oil and mining resources.

A further substantial flaw in the design of the revenue-sharing regime is the fact that distribution among the states has been fixed for more than 20 years, which contravenes a constitutional requirement that the distribution formula reflect the relative (and changing) capacities of the recipient governments to carry out their spending responsibilities. This prompted the Supreme Court to rule, at the beginning of 2010, that the regime was unconstitutional and would have to be changed by mid-2013.

This ruling opened a window of opportunity to reconsider and rationalize the main revenue-sharing mechanism with the states. However, the reform recently approved by Congress is rather modest and, given its transition mechanism, will not significantly change the horizontal distribution of transfers for years to come. Moreover, the opportunity to combine this reform with changes to the ICMS and royalties distribution, which might have opened the scope for compensation of gains and losses among states, was lost because reforms remain mired in disputes among the Executive, Congress, and the Supreme Court.

Of further concern are the hard budget constraints on subnational governments. For about a decade (from the late 1990s to 2008), constraints were ensured by the firm enforcement of the federal government's debt restructuring agreements with states and municipalities. In recent years, however, constraints have been weakened by authorization of significant new borrowing,

even by states that still have high debt-to-revenue ratios. In addition to creating renewed fiscal vulnerabilities, new borrowing may weaken subnational incentives to fully exploit their own-source revenue potential and make efficient use of their resources.

This chapter begins with brief overviews of subnational own-source revenue and the intergovernmental transfer system (including sharing oil revenue), highlighting their critical flaws. Next, reform priorities and options are discussed, and we take stock of the current situation regarding reforms. The chapter ends with some conclusions.

Subnational Own-Source Revenue in Brazil

Composition and Distribution of Total Subnational Revenue

In the last century, Brazil has witnessed significant fluctuations in the degree of revenue decentralization, largely mirroring ups and downs in the political strength of the central government relative to the subnational governments. In the aftermath of the fall of the military dictatorship, the 1988 constitution further catalyzed decentralization by expanding the base of the ICMS, a goods and services tax, and by substantially increasing the percentage of federal taxes shared with the states and, especially, the municipalities. At the same time, however, federal contributions earmarked for social security programs were excluded from the base for revenue sharing, opening the way, in subsequent years, for a recovery of the federal government's share in total revenue.² Indeed, in the past 20 years, there has been a steady increase in such contributions, some of which are levied on enterprise turnover and therefore involve significant cascading with attendant distortions.³

Table 4.1 presents the breakdown of taxes collected by each level of government in 2012.⁴ It highlights the relatively high level of the tax burden in Brazil (at over 36 percent of GDP, significantly higher than the Latin American average of 18 percent but broadly in line with the OECD average), and the fact that subnational taxes account for over 30 percent of the total, a percentage significantly higher than the worldwide average of about 20 percent, except for a few large federations (Corbacho, Fretes Cibils, and Lora, 2013; Ter-Minassian, 2012).

² Along with the traditional payroll contributions that finance the pension system, the contributions included the COFINS (Contribuição sobre o lucro líquido) and PIS-PASEP, (Programa de Integração Social-Programa de Formação do Patrimônio do Servidor Público) which are levied on the turnover of enterprises and the now-defunct tax on financial transactions.

³ The cascading was reduced but not eliminated by a reform in 2003.

⁴ Taxes include all compulsory levies not linked to a specific service (i.e., excluding user fees).

Table 4.1 | Level and Composition of Tax Burden, 2012

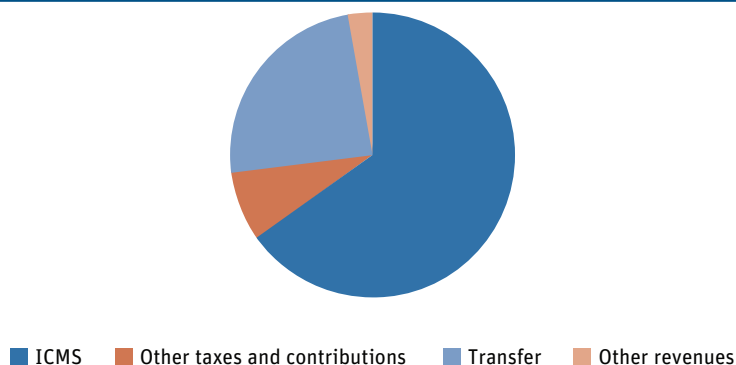
	Billions of Reais	Percent of GDP	Percent of total	Reais per capita
GDP	4,412.3			
Population	194,016,592			
Total	1605.1	36.38	100.0	8,273.0
Federal	1110.0	25.16	69.2	5,720.9
Taxes	340.9	7.73	21.2	1,757.1
Contributions	324.0	7.34	20.2	1,669.7
Social security	269.0	6.10	16.8	1,386.5
Guaranteed funds for service time	83.0	1.88	5.2	427.8
Other	93.1	2.11	5.8	479.8
States	397.7	9.01	24.8	2,049.9
VAT (ICMS)	308.3	6.99	19.2	1,589.2
Tax on motor vehicles	25.9	0.59	1.6	133.3
Other	63.5	1.44	4.0	327.3
Municipalities	97.4	2.21	6.1	502.2
Tax on services	38.9	0.88	2.4	200.4
Property tax	19.0	0.43	1.2	97.7
Other	39.6	0.90	2.5	204.0

Source: Data provided by J. R. Afonso.

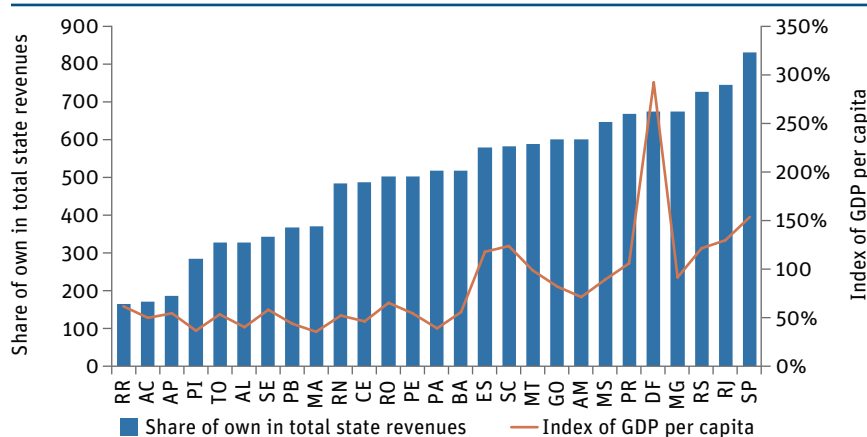
Own-source revenue accounts on average for over 70 percent of total state revenue (Figure 4.1). There is, however, a wide regional dispersion around this average, as many of the states of the North and Northeast are substantially more dependent on intergovernmental transfers than those in the South and Southeast (Figure 4.2). This discrepancy reflects the lower tax revenue of these generally poorer states⁵ and the formula for horizontal distribution of the shared revenue that reserves 85 percent of State Participation Fund transfers to states in the North, Northeast, and Center-West regions.

Dependence on intergovernmental transfers is substantially higher, on average, for the municipalities than for the states. Municipalities receive direct transfers from the federal government (according to criteria detailed below) and transfers from their state governments, mostly origin-based sharing of the ICMS

⁵ A recent study by Boueri Miranda, Ywata de Carvalho, and Rocha Gomes da Silva (2011), which used regionally differentiated stochastic frontiers, found higher elasticities of state revenue with respect to their GDP in the South and Southeast regions of Brazil.

Figure 4.1 | Composition of State Revenue, 2012

Source: Ministry of Finance database.

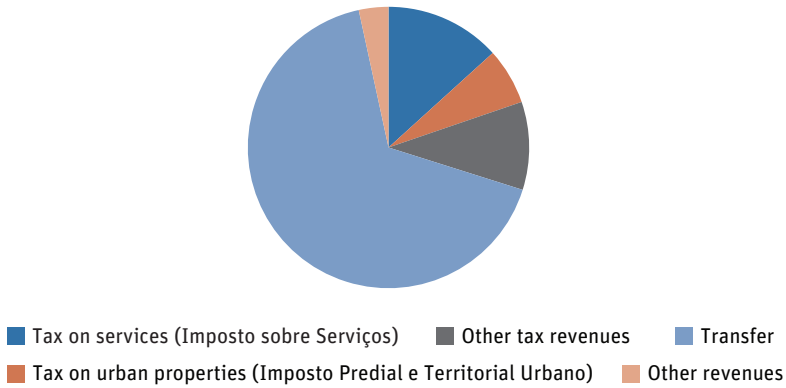
Figure 4.2 | Composition of Revenue and Index of GDP per capita by State, 2012

Source: Ministry of Finance database.

Notes: Acre (AC), Alagoas (AL), Amapá (AP), Amazonas (AM), Bahia (BA), Ceará (CE), Espírito Santo (ES), Goiás (GO), Maranhão (MA), Mato Grosso (MT), Mato Grosso do Sul (MS), Minas Gerais (MG), Pará (PA), Paraíba (PB), Paraná (PR), Pernambuco (PE), Piauí (PI), Rio de Janeiro (RJ), Rio Grande del Norte (RN), Rio Grande do Sul (RS), Rondônia (RO), Roraima (RR), Santa Catarina (SC), São Paulo (SP), Sergipe (SE), Tocantins (TO), Distrito Federal (DF)—Federal District.

and the tax on motor vehicles. Own-source revenue, mainly from a tax on services and a tax on urban properties, accounted on average for less than one-third of total municipal revenue in 2010 (Figure 4.3).

However, the degree of dependence on intergovernmental transfers varies significantly across municipalities. On average, small municipalities depend

Figure 4.3 | Composition of Municipal Revenue, 2012

Source: Ministry of Finance database.

substantially more on transfers than larger ones,⁶ reflecting the nature of the bases of the taxes on services and on urban properties (more buoyant in cities than in small rural communities), the weakness of their tax administrations, and the criteria for horizontal distribution of transfers from the federal government. Large cities collect on average more than 50 percent of their revenue through local taxes.

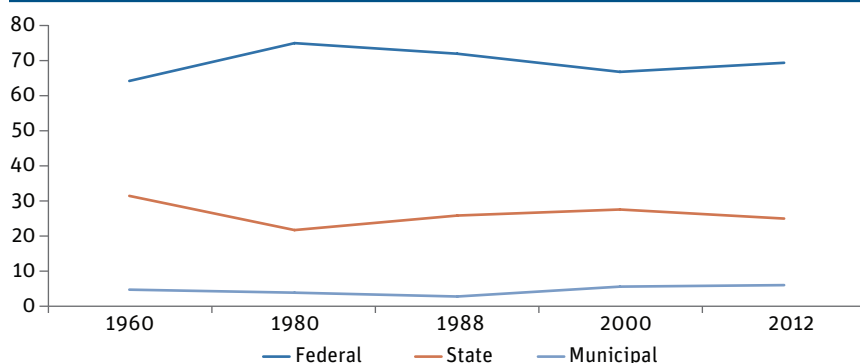
The impact of intergovernmental transfers on the vertical distribution of revenue is highlighted in Figures 4.4 and 4.5, which show the evolution of tax revenue of different levels of government, before and after intergovernmental transfers, over the period 1960 to 2012. The charts show the redistribution (in terms of available resources) that the constitutional reforms of revenue-sharing arrangements engendered in favor of municipal governments after 1988. They also highlight the recovery in the federal share of both before- and after-transfers revenue after 2000, as a result of growth in the non-shared social contributions mentioned above.

Main Issues in the State-Level VAT (ICMS)

While Brazil compares well with many countries in the degree of decentralization of revenue responsibilities to the state level, the composition of the states' own-source revenue is rather imbalanced. Revenue primarily comes from the ICMS, which is fraught with substantial flaws that are well documented in the literature (Forum Fiscal, 2006a,b; Afonso and Serra, 2007; Rezende, 2009, 2013;

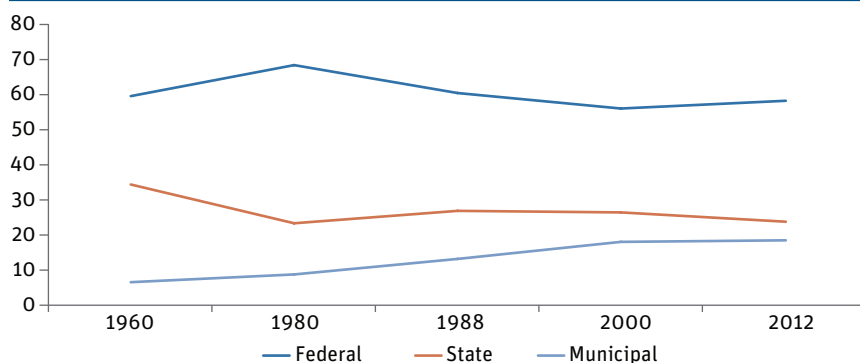
⁶ Mendes, Miranda, and Cosio (2008) estimate that in 2006 the share of transfers in total revenue exceeded 80 percent on average for municipalities with less than 50,000 inhabitants, which account for almost 90 percent of all Brazilian municipalities.

Figure 4.4 Evolution of Tax Revenue of Different Government Levels Before Transfers, 1960–2012 (as a percentage of total)



Source: Afonso, Castro, and Monteiro (2012).

Figure 4.5 Evolution of Revenue of Different Levels of Governments After Transfers, 1960–2012 (as a percentage of total)

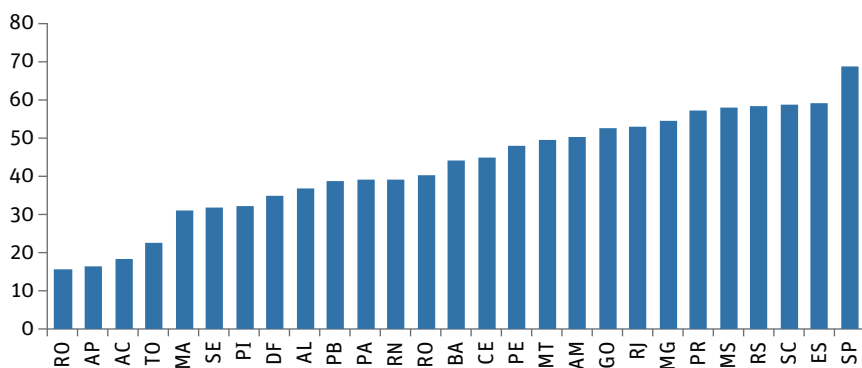


Source: Afonso, Castro, and Monteiro (2012).

Dornelles and Afonso, 2011). These flaws adversely affect efficiency, horizontal equity, and competitiveness, and also impose heavy compliance costs on taxpayers.⁷ Figure 4.6 shows the dependence of different states on the ICMS.

In contrast with most VATs that tax domestic consumption around the world (including imports and excluding exports and investments), the ICMS is levied on production plus imports. Exports have been zero-rated since 1996 (by the

⁷ See Blyde et al. (2009) for a discussion of the growth implications of Brazil's high and distortive tax burden. See also FIESP (2011).

Figure 4.6 | Share of ICMS in Current Revenue of the States, 2012

Source: Ministry of Finance data.

Notes: Acre (AC), Alagoas (AL), Amapá (AP), Amazonas (AM), Bahia (BA), Ceará (CE), Espírito Santo (ES), Goiás (GO), Maranhão (MA), Mato Grosso (MT), Mato Grosso do Sul (MS), Minas Gerais (MG), Pará (PA), Paraíba (PB), Paraná (PR), Pernambuco (PE), Piauí (PI), Rio de Janeiro (RJ), Rio Grande del Norte (RN), Rio Grande do Sul (RS), Rondônia (RO), Roraima (RR), Santa Catarina (SC), São Paulo (SP), Sergipe (SE), Tocantins (TO), Distrito Federal (DF)—Federal District.

so-called *Lei Kandir*), but in practice the states are generally reluctant to provide such credits since frequently they are due to exporters in one state for inputs taxed in other states. Delays and other obstacles to the refunds undermine export competitiveness. Credits are allowed for purchases of capital goods, but can only be used over a period of four years. Sometimes credits are delayed beyond the time limit, de facto becoming unusable (Varsano, 2013).

The base of the ICMS is the value-added in producing goods and selected services, with taxation of other services assigned to the municipalities. As the services sector has been the most dynamic in the Brazilian economy in recent decades, the exclusion of most services from the ICMS base has significantly dampened the growth of the tax. Moreover, technological changes are increasingly blurring the line between producing goods and services,⁸ further weakening tax enforcement.

The ICMS is levied on a mixed-origin/destination basis. Intrastate transactions are taxed at rates set by each state, and they vary widely across the country. Most common are a standard rate of 17 percent and reduced rates of 7 percent for staple goods and 12 percent for other selected goods. Higher rates apply to fuels, electricity, and telecommunication services, which together account for around 40 percent of ICMS revenue. The heavier tax burden on these important

⁸ For example, should the sale of electronically downloaded books be considered sale of a good or of a service?

inputs to production processes further undermines efficiency and competitiveness. Additionally, and in contrast with common international practice, all of these rates are applied on a base that includes the tax, thus masking a significantly higher effective rate⁹ on the value of the transaction.

Interstate transactions are taxed in the state of origin at 12 percent, which is reduced to 7 percent for exports from the richer South-Southeast states to the North-Northeast states. The destination state taxes the imported good at its internal rate and provides a credit for the interstate tax. However, this mechanism, which is designed to redistribute part of the revenue from the tax to the poorer states, creates substantial scope for evasion (through fake interstate sales, the so-called “fiscal invoice tour”¹⁰) and for cross-border shopping.

The predominantly origin-based system also facilitates using the ICMS as an instrument of industrial policy. The system has led to predatory competition between the states, with states granting incentives, exemptions, and various other non-transparent special benefits to attract enterprises (the so-called “fiscal war”). Until recently, a further distortion was the result of some states granting reductions in the ICMS to imports from abroad, aiming to attract importing enterprises. This incentive allowed imports from abroad a significant competitive advantage over comparable products imported from other states.¹¹ This distortion has been eliminated by recent legislation.

Moreover, the wide differences in bases, rates, collection, and enforcement procedures across states substantially increase taxpayers' compliance costs, especially for enterprises operating in multiple states.¹² With a view to facilitating

⁹ For example, the standard rate of 17 percent is equivalent to a 20 percent rate on the base excluding the tax. Moreover, the two federal contributions levied on turnover are included in the base of the ICMS, further increasing the effective rate of the ICMS on the pre-tax value of the transaction.

¹⁰ The fiscal invoice tour refers to a situation in which companies send the fiscal invoice without the goods to a state where the statutory interstate tax rate is 12 percent, but, as a result of fiscal incentives, the company pays only 3 percent. The company then sells the product back to its original state, where the good is claiming a tax credit of 12 percent against a tax debit of 6 percent (the difference between the interstate and the state tax rate), ending up with a net tax credit of 3 percent.

¹¹ If the ICMS rate on certain imports is reduced to, say, 2 percent, when the products are sold outside the importing state, they pay a total tax of 7 percent (the 2 percent paid at import plus the 5 percent difference between the standard internal rate of 17 percent and the interstate rate of 12 percent). A comparable domestic product would pay a total ICMS rate of 17 percent.

¹² According to World Bank estimates, Brazil ranks next to highest (by a wide margin) in an international comparison of the number of hours devoted by enterprises to calculate, file, and pay taxes.

collection and improving enforcement, a significant portion of the ICMS is collected by withholding tax. Under this system, the tax collected at an early stage of the value-added chain includes the estimated tax due on the value added in subsequent stages of the chain. Since the withholding is final, the system, albeit efficient from an administration standpoint, detracts from the neutrality of the tax to the extent that the value added in the later stages is not correctly estimated.

Growing recognition of the seriousness of the flaws outlined above has led to a number of (so far unsuccessful) attempts to reform the ICMS and the federal taxes and contributions levied on value-added or turnover. These efforts are discussed later in the chapter, in light of relevant international experience.

Main Issues with Municipal Taxes

The largest source of municipal revenue is a tax on services, except those related to transport or communications that are subject to the ICMS. The tax, which is paid by enterprises and self-employed business people operating in the municipality, is levied at rates set by each municipality within a federally specified range of 2 to 5 percent. Municipalities can grant exemptions and other benefits under the tax and have used it to attract large service enterprises (e.g., supermarkets) to their jurisdiction.

In general, however, the tax on services is an easier and politically more attractive own-source revenue for the Brazilian municipalities than the more traditional tax on urban properties, which accounts for only about 0.4 percent of GDP, or about half of the yield of the tax on services. The poor average performance of the tax on urban properties is a result of a number of factors:

- The relatively high share of non-registered properties in Brazilian cities
- The lack of reliable and updated information on market values of properties
- Weaknesses in enforcement procedures due to legal uncertainties and/or the lack of capacity of the local tax administration
- Political economy factors, including taxpayers' resistance to a visible tax, the fact that the tax is not clearly linked to benefits received, and frequent prompts to municipal authorities to:
 - choose a standard rate at the lower end of the permissible range,
 - grant exemptions,
 - not invest in the expansion and modernization of property cadasters,
 - resist updating cadastral values (which in the current Brazilian legislation must be enacted through municipal laws), and
 - not pursue delinquent taxpayers and/or grant periodic tax amnesties.

Given these weaknesses, it is not surprising that revenue from the property tax has significantly lagged the rapidly increasing real estate market values. Indeed, over the last couple of years, the rate of growth of property tax revenue nationwide has been about half that of real estate prices. The same weaknesses also help explain the relatively poor performance of the municipal tax on real estate transfers, which only accounts for about 0.1 percent of GDP.

Recent analyses (Afonso, 2010; De Cesare, Dantas, and Portugal, 2012) suggest that the performance of the property tax varies significantly across municipalities, being best in the larger municipalities in the South and Southeastern regions. Better performance reflects larger tax bases (greater concentration of higher property values) and more capacity for tax administration, including using modern technologies to register properties and assess cadastral values. However, poorer performance in smaller municipalities may in part reflect lower tax efforts, which may be a result of their favored position in the distribution formula of the federal transfers (see below for details).

The Intergovernmental Transfer System

In Brazil, the intergovernmental transfer system includes a variety of (partly overlapping) mechanisms:

- Revenue sharing
- Mandatory transfers linked to education, health, and other programs
- Compensatory transfers designed to compensate for certain externalities
- Discretionary grants, which are typically tied to specific subnational spending programs

Revenue Sharing

In the Brazilian federation, revenue is shared with the states and the municipalities by the federal government, and with their respective municipalities by the states. Revenue-sharing arrangements are a relatively large proportion of overall revenue, amounting to the equivalent of 6.5 percent of GDP in 2012 (Table 4.2). Some of the arrangements are mandated by the constitution, others by federal or state laws. All agreements have as a base only a subset of the revenue of the higher-level government. However, the criteria for vertical and horizontal distribution differ substantially between agreements. The three largest revenue-sharing mechanisms—State Participation Fund, Municipal Participation Fund, and the ICMS—are unconditional, while others are tied to education programs or are compensatory.

Table 4.2 | Composition of Revenue-Sharing Arrangements, 2012

Type of sharing	Billions of Reais	Percent of GDP	Percent of total
Federal to states	93.26	2.03	32.31
State Participation Fund	52.96	1.12	18.35
Transfers for education	15.11	0.34	5.24
Compensation for zero-rating of exports	2.64	0.06	0.91
Royalties and sharing	11.85	0.27	4.11
Other	10.70	0.24	3.71
Federal to municipalities	86.10	1.96	29.83
Municipal Participation Fund	54.75	1.24	18.97
Transfers for education	21.96	0.50	7.61
Royalties and sharing	7.80	0.18	2.70
Other	1.59	0.04	0.55
States to municipalities	109.29	2.47	37.86
ICMS	59.70	1.35	20.68
Tax on vehicles	12.93	0.29	4.48
Transfers for education	35.81	0.81	12.41
Other	0.85	0.02	0.29
Total	288.65	6.46	100

Source: Data provided by J.R. Afonso.

State Participation Fund

The State Participation Fund, the most important revenue-sharing agreement between the federal government and the states, was created by the 1967 constitution and expanded by the 1988 constitution. The Fund represents 21.5 percent of the revenue from the federal income tax and selective VAT. In 1989, following a lengthy negotiation, the criteria for distribution among the states were set by a higher-level law (*Lei Complementar* no.62). The combined shares of the states in the less developed North, Northeast, and Center-West regions were determined to be 85 percent of the Fund total. Within this constraint, the coefficients for individual states were determined through marginal modifications in the pre-existing criteria that related them to each state's territory (with a weight of 5 percent) and inverse of per capita income (with a weight of 95 percent).

These coefficients (Table 4.3) have not been changed since 1989, despite significant changes in the distribution of per capita income across states, particularly in the Center-West region, which has benefited from the boom in agro-business. At the beginning of 2010, the Supreme Court ruled that the fixed character of the

Table 4.3 | **Current Distribution Coefficients of the State Participation Fund**

State	Region	% of Fund	State	Region	% of Fund
Bahia	NE	9.3962	Amapá	N	3.4120
Ceara	NE	7.3369	Paraná	S	2.8832
Maranhão	N	7.2182	Goiás	CO	2.8431
Pernambuco	NE	6.9002	Rondônia	N	2.8156
Para	N	6.1120	Amazonas	N	2.7904
Paraíba	NE	4.7889	Roraima	N	2.4807
Minas Gerais	SE	4.4545	RG do Sul	S	2.3548
Tocantins	N	4.3400	Mato Grosso	CO	2.3079
Piauí	NE	4.3214	Rio de Janeiro	SE	1.5277
RG do Norte	NE	4.1779	Espírito Santo	SE	1.5000
Alagoas	NE	4.1601	MG do Sul	CO	1.3320
Sergipe	NE	4.1553	Santa Catarina	S	1.2798
Acre	N	3.4210	São Paulo	SE	1.000
			Distrito Feder.	CO	0.6902

Source: Lei Complementar no. 62, 1989.

Notes: N: North; NE: Northeast; S: South; SE: Southeast; CO: Center-West.

distribution coefficients runs counter to the constitutional mandate that distribution of the State Participation Fund reflect evolving equity considerations. The court thus required that new distribution criteria better aligned with the current regional realities be enacted by mid-2013.

Table 4.4 shows that the per capita Fund transfers received by each state bear only limited relation with per capita GDP or revenue capacity, as proxied by per capita revenue before the transfers. The six largest recipients of State Participation Fund transfers (mostly in the sparsely populated North region) are not among the poorest in terms of either per capita GDP or revenue before the transfers; rather they lie in the middle of the distribution.

Mendes, Miranda, and Cosio (2008) and Rocha (2010) recently analyzed the relationship between State Participation Fund transfers to individual states (net of 21.5 percent of the revenue from the federal income tax and selected VAT collected in the state) and the human development index for the state. Results indicate that, although the transfers are on the whole relatively progressive (declining as the human development index rises), some of the Northern states are disproportionately favored, while some of the poorer Northeastern states are penalized.

Table 4.4 | Comparison of the Distribution of Fund Transfers Per Capita with the States' Income Per Capita and Capacity to Spend, 2012 (in Reais)

State	GDP per capita	Basic revenue per capita	Fund transfer per capita
Acre	11,393	1,531	2,793
Alagoas	9,086	782	814
Amazonas	12,404	1,761	3,026
Amapá	16,170	2,207	481
Bahia	12,743	1,115	411
Ceará	10,589	869	528
Distrito Federal	66,242	5,242	161
Espírito Santo	26,861	2,791	260
Goiás	18,554	2,005	286
Maranhão	7,888	659	666
Mato Grosso	22,390	2,398	459
Mato Grosso do Sul	20,329	2,305	329
Minas Gerais	20,712	1,894	139
Pará	8,771	1,147	486
Paraíba	9,800	870	778
Pernambuco	24,042	2,246	200
Piauí	12,474	3,587	1,353
Paraná	8,168	274	253
Rio de Janeiro	29,355	2,456	47
Rio Grande do Norte	11,724	1,287	808
Rio Grande do Sul	27,435	2,066	135
Roraima	14,895	1,913	1,099
Rondônia	13,943	1,796	3,273
Santa Catarina	27,957	2,153	124
Sergipe	34,847	2,742	12
São Paulo	13,269	1,254	1,220
Tocantins	12,029	1,624	1,897

Source: Data provided by J. R. Afonso.

Note: Basic revenue = net revenue before Fund transfers.

Municipal Participation Fund

The Municipal Participation Fund, the most important revenue-sharing agreement between the federal government and the municipalities, has deep roots in the federation's structure and was significantly increased by the 1988 constitution. The Fund, which represents 23.5 percent of the revenue from the federal income tax and selective VAT, has three distribution components: capital cities

(10.0 percent), other municipalities (86.4 percent), and large non-capital cities (3.6 percent).

The portion reserved for capital cities is distributed based on population size and the inverse of the respective states' per capita income. The bulk of the Fund is distributed according to coefficients of population size and disproportionately benefits the smaller municipalities. To mitigate the incentive for an increase in small municipalities, it was stipulated that newly created localities would be funded from the transfers to pre-existing localities in the same state. As a result of this stipulation, distribution of the Municipal Participation Fund across states has been frozen since 1989, despite substantial demographic shifts since then. Finally, the 3.6 percent of the Municipal Participation Fund reserved for large municipalities (defined as those with population of more than 142,633 inhabitants) is distributed according to a formula similar to that for capital cities. These municipalities also participate in the distribution of the 86.4 percent; the added amount of the Fund aims to reduce the bias in favor of smaller municipalities.

The bias reduces the redistributive potential of the Fund, since there is limited correlation between the size of a municipality and its level of per capita income (or other development indicators). Thus, the distribution criteria for the Municipal Participation Fund put at a disadvantage the relatively populous and frequently poor satellite cities surrounding large municipalities and capital cities, thereby reducing their capacity to provide essential public goods and services to the population. In contrast, the criteria disproportionately benefit small municipalities that grow around large industrial establishments, and that already benefit substantially from own-source revenue and devolution-based state transfers.

Sharing the ICMS

The largest component of revenue sharing is the transfer (mandated by the 1988 constitution) of 25 percent of state revenue from the ICMS to municipalities. Three-quarters of these transfers¹³ are distributed according to an origin criterion (i.e., proportionally to the value-added originating in the municipality), and one-quarter is distributed according to other criteria determined by each state. These latter criteria vary widely between states, with some informed mainly by equity considerations, others aiming to ensure synergies between municipal and state programs, and yet others aiming to mitigate externalities (e.g., environmental factors).¹⁴

¹³ Of these ICMS transfers, 15 percent is earmarked for basic education and is allocated among municipalities based on the number of students enrolled in relevant programs.

¹⁴ A detailed analysis of the variety of criteria used by the states can be found in Forum dos Estados Brasileiros (2006a).

The predominance of the origin criterion results in a disproportionate share being transferred to municipalities with large industrial establishments. It also creates an incentive to fragment because industrial areas can maximize transfers per capita by setting up individual municipalities.

A comparison of various indicators (e.g., regional location, size and growth of population, degree of urbanization, and human development index) for the 200 largest and 200 smallest recipients of ICMS transfers with the corresponding national averages (not surprisingly) shows that these transfers favor municipalities in the richer South and Southeast regions, with smaller populations, higher human development indices, and higher own-source revenue per capita (Mendes, Miranda, and Cosio, 2008). Moreover, the concentration of ICMS transfers is only partially offset by the distribution of transfers from the State Participation Fund.

Sharing Revenue from Natural Resources

The 1988 constitution stipulates that natural resources (oil and gas, minerals, and water) belong to the federal government, but revenue from their exploitation is to be shared with the states and municipalities. The sharing regimes for each type of resource have undergone significant changes over recent decades¹⁵ and further changes are likely.

The current regime for rents from petroleum exploration¹⁶ (which account for over 85 percent of total revenue from natural resources) and how they are shared between government levels were set in 1997, following the end of the Petrobras monopoly in 1995. Traditionally, the exploration regime has been about concessions: companies bid for exploration rights and own production from the fields awarded to them. In exchange, the companies pay various types of rent, which are shared among the federal, state, and local governments. Petroleum rents grew steadily over the early 2000s, peaking at the equivalent of 0.75 percent of GDP in 2008, before declining somewhat (to 0.53 percent) in 2009. Rents are expected to rise substantially over the next 20 years or so, following the discovery of major offshore reserves and a shift from concessions to production-sharing arrangements for new fields (discussed further below).

Under the concession regime, there are four types of petroleum rents:

- A signature bonus that goes entirely to the federal government

¹⁵ See Afonso and Gobetti (2008) for a historical overview of the process.

¹⁶ This section only discusses the non-tax component (rents) of petroleum revenue. We note that the taxes paid by the petroleum sector (mainly Petrobras) to the federal government (which amount to about 1 percent of GDP) and to the states (1.2 percent) were equivalent in total to about 4 times petroleum rents in 2009.

- Area fees related to the size of the oil field being explored that go to the National Petroleum Agency, a federal institution
- Royalties levied monthly as a share of production at a basic rate of 5 percent or a higher rate (of up to 10 percent), depending on characteristics of the field
- A special rent levied on the more productive and profitable fields

Both the royalties and the special rent are shared between the three levels of government. Table 4.5 shows the vertical distribution of revenue from oil exploration under the concession regime and from the consumption of oil products.

The horizontal distribution coefficients also vary depending on the type of levy and whether the field is onshore or offshore. Onshore revenue benefits mainly the states and municipalities in which the field is located; offshore revenue benefits mainly the coastal states and municipalities facing (sometimes at a distance of hundreds of miles) the deep-sea field. Part of the revenue goes to the port municipalities from which the oil is shipped. A very small portion of the revenue is distributed based on the criteria of the State and Municipal Participation Funds. Not surprisingly, distribution criteria have resulted in a very high concentration of resource revenue going to a limited number of states and municipalities. Figure 4.7

Table 4.5 | Level of Government's Share of Oil-Related Revenue (as a percentage of total)

Type of revenue	Federal government	States	Municipalities
Royalties on offshore oil	30.0	24.3	45.7
Royalties on onshore oil	12.5	52.5	35.0
Special rent	50.0	40.0	10.0
Signature bonus and fees	100	—	—
Company income tax	55.0	21.5	23.5
CSLL*	100	—	—
Dividends	100	—	—
IPI**	45.0	29.0	26.0
Programa de Integração Social/COFINS***	100	—	—
CIDE-Combustíveis****	76.8	17.4	5.8
ICMS	—	75.0	25.0

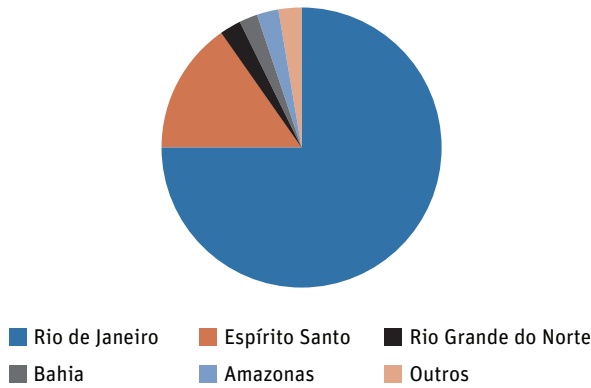
Source: Gobetti (2011).

* The CSLL (Contribuição sobre o lucro líquido) is a federal contribution that is essentially a surcharge on the company income tax.

** The IPI (Imposto sobre Produtos Industrializados) is the federal selective VAT.

*** The COFINS (Contribuição sobre o lucro líquido) is a federal contribution that is levied on enterprises' turnover.

**** The CIDE-Combustíveis (Contribuição sobre Intervenção no Domínio Econômico) is a federal transfer to states and municipalities of a portion of a tax on the consumption of oil products.

Figure 4.7 | Distribution of Royalties and Rents Among States, 2012

Source: Afonso and de Castro (2010).

shows that five states receive over 97 percent of the total state share of this revenue, with Rio de Janeiro receiving 85 percent.

Figure 4.8 depicts distribution of the municipalities' shares of petroleum revenue, which are only slightly less concentrated than those of the states. Specifically, municipalities in Rio de Janeiro account for about 75 percent of the total, and those in four other states account for a further 16 percent. One municipality (Campos de Goytacazes in Rio de Janeiro) receives nearly one-quarter of the total, and the 10 largest recipient municipalities account for 64 percent of the total.

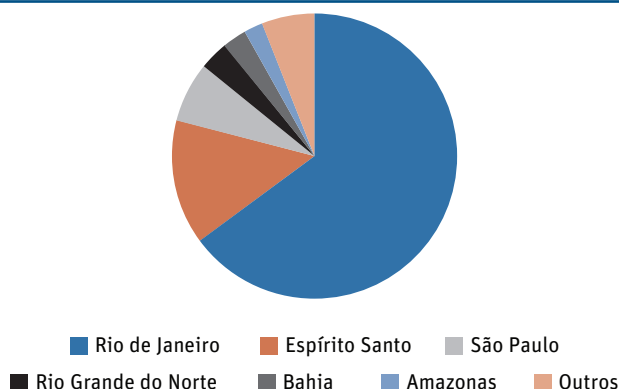
Some studies (Leal and Serra, 2003; Nazareth, 2005; Conceição et al., 2006; Serra, 2007; Afonso and Gobetti, 2008) have focused on the efficiency costs of the high concentration of petroleum rents. They found evidence that the largest recipient municipalities have reduced incentives to mobilize own-source revenue, higher expenditures per capita on payroll (but not on social spending and investment), and generally lower cost-effectiveness of spending.

The petroleum rent regime was modified in 2011 by a law mandating a shift from concessions to production-sharing arrangements (PSAs) for the deep sea and other fields considered of strategic national interest.¹⁷ The PSA regime is expected to significantly increase the federal government's share of petroleum resources.¹⁸ Initially, the revenue associated with this change was to be used for a savings-type sovereign wealth fund, with investment returns to be devoted to

¹⁷ These fields are estimated to account for about two-thirds of current proven reserves.

¹⁸ Under the PSA regime, in addition to signature bonuses and its share of royalties, the federal government receives the entire value of the oil obtained from a field, after deducting exploration and production costs and the profit margin stipulated in the leasing arrangement, which goes to the enterprise (Petrobras or a consortium, including a

Figure 4.8 | Distribution of Royalties and Rents Among Municipalities of the States, 2012



Source: Afonso and de Castro (2010).

education (50 percent, with 80 percent going to basic education), health, environment, and other social programs. The returns were to be distributed according to criteria aimed at reducing regional disparities. Following the protests regarding public services in mid-2013, Congress hastily approved a law earmarking these resources for education and health (75 and 25 percent, respectively).

The 2011 law also changes the criteria for distributing the share of royalties going to the states and municipalities, including those in already existing concession arrangements.¹⁹ If enacted, this provision would entail substantial losses for the producer states and municipalities that benefit from the distribution formulas under the current regime.²⁰ The president vetoed this provision of the law, but the veto was overridden. The affected states have questioned the constitutionality of the provision. Pending a decision by the Supreme Court, the traditional distribution formula for the royalties remains in effect.

minimum 30 percent participation of the latter) granted exploration of the field. In the new system, royalties will be levied at 15 percent, but the special rent, currently shared with the states and municipalities, will disappear.

¹⁹ Specifically, the law envisaged that producing municipalities would have their share reduced to 15 percent in the first year, and progressively to 4 percent in the eighth year and beyond. For the producing states, the share of oil royalties was fixed at a steady 20 percent. For the non-producing states and municipalities, the royalties share was set at 21 percent for the first year, increasing to 27 percent until 2020. These latter royalties would be distributed among states and municipalities following the same rules as the State and Municipal Participation Funds.

²⁰ Taking into account the royalties, the share of oil revenue accruing to the producing municipalities would decline to 0.6 percent in 2020 from 2.625 percent.

Other Revenue-Sharing Arrangements

There are several unconditional mechanisms for sharing taxes across government levels, such as sharing the federal tax on rural properties with municipalities, the federal regulatory tax on gold purchases with states and municipalities, and the state tax on vehicles with municipalities. These sharing arrangements are affected at different rates²¹ and are mostly distributed based on origin criteria. They contribute to the fragmentation of the intergovernmental transfer system and make it difficult to assess the system's overall distributive impact.

Transfers Linked to Specific Spending Functions or Programs

Education

Reflecting the increased priority of basic education in government policy, the resources devoted to this area have risen significantly in recent years. The 1988 constitution mandated that 18 percent of federal expenditures and 25 percent of state and municipal expenditures be devoted to education, and that 60 percent of such spending go to basic education (preschool through high school). Despite this mandate, resources devoted to basic education were largely stagnant in real terms from 1988 to 2003. Since then, they have accelerated dramatically as a result of redistributive intergovernmental transfer arrangements.

The mechanism used for education transfers is the Fund for the Development of Basic Education (*Fundo de Manutenção e Desenvolvimento da Educação Básica*, or FUNDEB), which receives 20 percent of state and municipal revenue, supplemented by 10 percent from the federal government. The FUNDEB is redistributed to local governments to finance basic education on the basis of the size and specific characteristics of the student populations. The objective is to reduce disparities in the capacity of different governments to provide education services at a minimum accepted standard (adjusted for such factors as the urban or rural location of the students and the type [regular or special] of education provided).²²

Recent analyses of the regional distribution of public expenditures per student on basic education show that the FUNDEB has effectively reduced, but not

²¹ Specifically, the tax on vehicles is shared equally between the state and the municipality where the vehicle is licensed. The tax on gold is collected by the federal government and distributed between the state (70 percent) and the municipality (30 percent) of origin.

²² An interesting recent innovation of the FUNDEB is a reward for schools that record improvements in their students' performance, as measured by a standardized index. A portion of the FUNDEB resources are now reserved for this purpose. This is an initial attempt to increase subnational accountability for earmarked federal transfers.

eliminated, discrepancies across regions. On average, expenditures are one-third lower in the Northeast than in the Southeast (Bruns, Evans, and Luque, 2011; Veloso, 2011). Of note, since the federal, state, and municipal contributions to the FUNDEB are linked to revenue, the fund's resources are quite sensitive to cyclical fluctuations.

Health

In Brazil, public health services are carried out within a national health system. The federal government sets national guidelines and finances part of the services, either directly or through transfers; the states and the largest municipalities are responsible for the more complex services; and the rest of the municipalities focus on prevention and basic care. The states are required to devote a minimum of 12 percent of their revenue to health spending, and the municipalities a minimum of 15 percent. Since 2000, following a constitutional amendment, federal spending on health has been required to rise at least in line with GDP.

Federal transfers to the states and municipalities to finance health services have grown rapidly in recent years, to over 60 percent of total health spending, substantially outpacing direct payments to hospitals and private health providers. The increases signal a growing decentralization of health spending responsibilities. Transfers are partly mandatory and partly discretionary. The mandatory component includes certain programs, with amounts determined based on specific criteria, such as population and services financed. One of these programs compensates subnational entities that provide the most complex health services for the costs of treating patients that reside outside the region. Discretionary transfers are negotiated on a case-by-case basis to support specific services in particular communities. Not surprisingly, discretionary transfers are more subject to political influence.

On average, federal transfers account for over one-third of total health financing, but with significant variance between regions, ranging from about 33 percent in the Southeast to over 45 percent in the Northeast. The system has been moderately successful in reducing differences in per capita health spending across regions over the past decade or so. However, there is still a lack of clear linkage of the resource transfer with indicators of both need and performance (Medici, 2011; Gragnolati, Lindelow, and Couttolenc, 2013).

Programs Financed by the CIDE

The CIDE (Contribuição de Intervenção no Domínio Econômico), a federal levy on the importation and sale of fuel products, is shared with the states and municipalities to finance ethanol subsidies, environment projects related to oil and gas

exploration, and investment in transportation infrastructure. The federal government transfers 29 percent of CIDE revenue to the states, and a quarter of this transfer is subsequently passed on to the municipalities. The horizontal distribution is guided by various criteria (with different weights), some of which approximate the origin principle (the consumption of fuel products), while others loosely reflect spending needs (e.g., extent of the road network and population). Of the total, 10 percent is distributed equally among the states.

A calculation of the redistribution effected by CIDE sharing (measured by the transfers received by individual states net of the CIDE collected in each of them) indicates that the mechanism is mildly progressive: the poorer states in the North-Northeast tend to be net recipients, and those in the South-Southeast net contributors. However, net transfers amount in total to about only 15 percent of CIDE revenue, suggesting that most of this revenue remains in the state where it is collected.

The requirement that 25 percent of the transfers to the state be passed on to the municipalities limits the effectiveness of CIDE revenue in financing larger infrastructure projects. Further shortcomings of the mechanism include the rudimentary criteria for evaluating need and the lack of indicator of performance for the projects that are financed.

Discretionary Special-Purpose Grants

Though discretionary special-purpose grants represent less than 2 percent of total intergovernmental transfers in Brazil, they are an important source of revenue for some states. They may be matching (complementing funds allocated by lower-level governments to specific spending programs or projects) or non-matching grants. They often stipulate specific conditions for use of the funds, but monitoring fulfillment of conditions may be limited by the availability of relevant information. There are no transparent criteria for distributing such grants, and political bargaining during the budget process often influences their allocation.

Compensatory Transfers

Primarily, compensatory transfers are intended to repay states and municipalities for the loss of ICMS revenue due to the zero-rating of exports. There are two types. The first (established by the constitution) relates to exports of industrial goods, and mandates sharing 10 percent of the revenue from the federal selective VAT with the states. The distribution among states is proportional to each state's share of industrial exports. Of this transfer, 25 percent is shared by the states with their municipalities, following the distribution criteria of the ICMS transfers described above.

The second type relates to exports of primary and semi-manufactured products that were zero-rated as of 1996. These transfers acquired constitutional status in 2003 with a constitutional amendment, but determination of the amount was left to a complementary law, which has not yet been put forward by the federal government. In the meantime, the amount of the transfer and its distribution among the states (a process involving intense negotiations) are set out in the annual budget. There are significant flaws in this second compensatory transfer in terms of lack of transparency, predictability for the recipient governments, and scope for political influence.

Summary

In summary, the intergovernmental transfer system in Brazil appears to have some of the following characteristics:

- Discretion in the transfers is relatively low, which promotes transparency, predictability, and immunity from continuous political bargaining, but also cyclical volatility, and inflexibility in the face of changing economic, social, and demographic trends.
- Multiple transfer mechanisms exist, which complicates assessment of the effects of allocation and distribution for the overall system.
- There is a significant reliance on origin criteria in the horizontal distribution of resources, which compounds the already substantial differences in revenue capacities that characterize subnational own-source revenue. The current (also origin-based) sharing of natural resource rents further aggravates these differences, as such resources are concentrated in relatively few states and municipalities.
- There is a lack of a comprehensive, well-designed equalization transfer system, which results in inequitable distribution of government resources. While existing studies suggest that some of the transfers (notably FUNDEB) have a more or less significant progressive redistributive impact, they fall well short of an equalization system.

Priorities for Reform of the Subnational Revenue System

In light of the above analysis, we suggest that priority objectives for comprehensive reform of subnational revenue in Brazil should include the following:

- Rationalizing the ICMS and the tax on services to reduce efficiency and compliance costs
- Strengthening municipal taxation of real estate

- Streamlining the complex system of intergovernmental transfers
- More equitably distributing the benefits of revenue from non-renewable resources, especially oil and gas
- Transforming the State and Municipal Participating Funds into well-designed equalization mechanisms

Needless to say, some of these reforms would inevitably involve significant gains and losses for individual states and municipalities. Therefore, appropriate transition mechanisms to facilitate a gradual adjustment of subnational finances to the reformed arrangements would be essential for their political viability.

Below, we discuss possible reform strategies in light of relevant international experiences; we briefly review reform proposals already put forward by public authorities and/or academics; and we provide an initial assessment of the reform steps taken in recent months.

Reform of Primary Subnational Own-Source Revenue

State (ICMS) and Municipal-Level VAT on Services

Given the above-mentioned distortions still engendered by some of the federal contributions levied on turnover, a reform of the ICMS and the local services tax should ideally provide an opportunity to reform and rationalize the main federal indirect taxes and contributions as well. Specifically, a first-best comprehensive reform of the current system of indirect taxation would involve replacing all the above-mentioned levies by one or more VAT-type taxes modeled on best international practices, and possibly complemented by a municipal-level retail sales tax.

A first question to be addressed is whether there should be a national VAT, with revenue shared on a devolution basis among the three levels of government (a model advocated by the federal government in the 1990s and re-proposed, with some modifications, by Senator Dornelles in 2009), or a dual VAT, as proposed by, among others, the Ministry of Finance in 2007, and more recently by Prof. F. Rezende. These three proposals are briefly described in Box 4.1.

Although a national VAT with revenue shared among the three levels of government would have advantages in terms of economies of scale in collection and minimization of compliance costs for taxpayers, it would substantially reduce state fiscal autonomy (that has long historical roots in Brazil) and might diminish the political accountability of state authorities. It would also require substantial shifts of resources from the states' tax administrations to the federal administration, with foreseeable bureaucratic resistance.

Box 4.1 Proposals to Reform Indirect Taxes

In 2009, a proposal by Senator Dornelles based on a 1990 tax model advocated by the federal government, envisaged a national VAT with a common (federal and state) base and rate schedule, collection on an origin basis, and redistribution among the states based on each state's share of national consumption. The states would be responsible for administration and enforcement. The national VAT would replace the ICMS and the local services tax, as well as various other federal contributions, except those that finance the pension system and the surcharge on the company income tax, which would be merged with the income tax. This new tax would be shared proportionately between the federal government and the states based on the current shares of total revenue from the reformed taxes. Of the states' share, 25 percent would be passed on to the municipalities based on the same criteria currently used to share the ICMS. The proposal includes recommendations for consolidating all forms of property (movable and immovable) tax at the municipal level and creation of a federal fund to compensate states and municipalities for losses incurred as a result of the reform.

In 2007, a proposal by the government (Ministry of Finance) envisaged replacing the taxes and contributions, plus the CIDE, with a dual (federal and state) VAT and a municipal retail sales tax. The dual VAT would have a uniformly defined consumption-type base. The federal rate would be defined by law, and the state rate (uniform across the territory) by the Senate, based on proposals from the Committee of State Secretaries of Finance. However, individual states would maintain limited autonomy to set special rates for a few products. The state VAT would be collected on an origin basis, but revenue would be redistributed on a destination basis (eventually, after full implementation of electronic invoices, through a clearinghouse). The municipal retail sales tax would be levied at rates set by individual municipalities within a band of 0.5 to 2.5 percent. The federal government would absorb any increase in the tax burden resulting from the proposal by reducing its VAT rate.

The Rezende proposal (2009) shares most features with that of the Ministry of Finance, but with an important difference. This proposal envisaged autonomy for individual states in defining the schedule of VAT rates, possibly within a nationwide band defined by the Senate.

Therefore, a dual VAT would seem a more promising option. Relevant international experience (see Chapter 1) suggests that it would be desirable for such a tax to have the following characteristics:

- The base is uniformly defined across the national territory, limited to domestic consumption of goods and services, with zero-rating of exports, full

taxation of imports, and full credit for purchases of capital goods as inputs into production processes; few exemptions; and provision for phasing out existing benefits under the taxes being replaced over a reasonable transition period.

- There are a very small number of rates (e.g., a standard rate and a reduced rate for items with large weight in the consumption basket of lower income groups). These rates should be expressed as percentages of the tax base excluding the tax, in line with standard international practice.
- The rate schedules for the state VATs vary across states within a relatively narrow band, set by the Senate on recommendation of the collegiate of states. Since the shift to a destination basis would minimize the scope for exporting the burden of the tax to other states, thus eliminating incentives for predatory tax competition, differences in state rates would likely be small and reflect differences in spending needs and other fiscal conditions (e.g., debt service).
- The collection of the state VATs is origin-based, with the revenue redistributed on a destination basis through a clearinghouse, now facilitated by generalized use of electronic invoices and implementation of a uniform taxpayer register.

Decisions on the rate schedules for a dual VAT should be based on simulations of the impact of alternative options on the overall tax burden and its distribution not only among the three levels of government, but also within each of them (in particular among individual states).²³ To facilitate political acceptance of the reform, it would seem appropriate to aim *ex ante* at broad maintenance of the (already relatively high) overall tax burden and its distribution among levels of government around their current levels. The calculations of losses and gains for individual states and municipalities should take into account any compensating effects from concomitant changes in other taxes, as well as in revenue-sharing arrangements and other intergovernmental transfers (discussed below).

A dual VAT should be complemented by federal and state-level excises on selected goods and services. The federal and state governments should agree on acceptable sharing of the relevant bases to avoid vertical competition and the risk of an excessive tax burden on these goods and services. The loss of own-source

²³ Simulations of the impact of previous reform proposals have been conducted by the Ministry of Finance, the collegiate of states, and other intergovernmental organizations (e.g., see Forum Fiscal dos Estados Brasileiros, 2006b). The databases of such studies, updated to reflect the improved information now available on interstate trade flows, could be used to simulate new reform options.

revenue to the municipalities entailed by merging the local sales tax into the dual VAT could be compensated in part by sharing the revenue from the VAT and in part by combining the introduction of a low-rate municipal retail sales tax and rationalizing and strengthening property taxes (see below). To make administration of the tax more effective and to reduce compliance costs, steps to harmonize collection and enforcement procedures across the country should accompany the introduction of the dual VAT.

Unfortunately, there does not currently appear to be political appetite for a first-best, comprehensive reform of the type outlined above. Recently, recognizing this reality, the federal government has shifted its effort toward promoting a partial reform of the ICMS, focused on reducing the interstate rate, as an approximation to a move to the destination principle, but with the advantage of maintaining the exporting state's interest in monitoring interstate transactions. The government initially proposed a uniform interstate rate of 4 percent, to be approached gradually by 2021 with a linear path for all transactions. The exception would be sales from the richer (South-Southeast) to the poorer (North-Northeast) states, for which the rate would be reduced from the current 7 percent to 4 percent by 2016.²⁴

The proposal also envisaged creating two funds: the Revenue Compensation Fund to compensate the states that have been adversely affected by the reduction in the interstate rate for 20 years; and the Regional Development Fund to provide all states a tool to fund regional development projects, as an implicit quid pro quo for the prohibition to grant new fiscal incentives under the ICMS for 20 years.²⁵ Resources for the Revenue Compensation Fund would come from the federal budget. The Regional Development Fund would provide subsidized-interest loans (funded by the national and/or regional development banks), with the subsidy paid by the federal budget. This fund's resources would be distributed among the states according to each state's share of population and the inverse of its per capita GDP.

Congress has significantly watered down even this modest and gradual reform proposal. The latest version of the bill, still under discussion in the Senate, envisages several exceptions to the unification of the interstate rate, obviously

²⁴ A step in the right direction was Senate Resolution 13/2012, which mandated, effective January 1, 2013, a uniform 4 percent rate for interstate sales of imported products. This has virtually eliminated the scope for the so-called war of the ports.

²⁵ In 2012, the Supreme Court issued a decision declaring unconstitutional all incentives granted by the states, unless approved by a unanimous decision of the collegiate of states.

catering to specific regional interests (most notable being the 12 percent rate for the sale of products originating in the free trade zone of Manaus and for sales on natural gas). If these exceptions are maintained in the final version of the law, they would further reduce the benefits of ICMS reform in terms of efficiency and simplification of the system.

Property Taxes

Strengthening property taxation at the municipal level would be highly desirable, especially given the low efficiency costs and distribution implications of property taxes (as discussed in Chapter 1). A number of steps could be useful:

- Shifting assignment of the rural property tax from the federal to the municipal level
- Establishing occupancy (except under formal rental arrangements) rather than legal ownership as the basis for liability under the property tax to reduce the adverse impact of informality on collecting the tax
- Clarifying the legal basis for betterment levies to avoid the judicial disputes currently plaguing this very underexploited form of taxation
- Reducing exemptions and special treatments but allowing a basic deduction for low-value properties, if owner-occupied, to avoid excessive burden on poor families
- Investing in improved cadasters using modern technology and integrating them with other relevant databases maintained by institutions responsible for public services
- Shifting the responsibility for periodic property revaluations from the legislative to the executive branch to reduce political interference in the process
- Increasing the frequency of property revaluations (ultimately to an annual basis, as is common in advanced countries) and linking them more closely to development in market values
- Increasing the transparency of the valuation process to strengthen taxpayers' confidence in the process

Smaller municipalities with limited capacity could consider entering into an agreement with nearby larger ones to collect the tax on their behalf for a performance-related fee.

As part of a comprehensive reform of revenue assignments, consideration could be given to assigning to municipalities the tax on motor vehicles, which is currently assigned to the states.

Reform of Intergovernmental Transfers

General Considerations

In light of the above brief review of the current system of intergovernmental transfers in Brazil and of relevant international experience,²⁶ it appears that future reform efforts should focus on the following main objectives:

- Making the system more equitable
- Simplifying the system and increasing its transparency
- Ensuring sufficient flexibility in the distribution formulas to accommodate changes in the relative situations of the subnational jurisdictions
- Reducing the cyclical sensitivity of the transfers

Since the different components of the system—the various revenue-sharing arrangements and the other types of transfers—fare differently in relation to equity, simplicity, transparency, flexibility, and cyclical sensitivity, a blueprint for comprehensive reform would need to be designed taking into account the specific characteristics of each type of transfer and carefully quantifying, through detailed simulations, the effects of proposed changes on the vertical and horizontal distribution of resources.

A comprehensive and simultaneous approach to the reforms would promote mutual consistency and facilitate trade-offs that might increase political viability. For example, contentious reforms of the royalties' regime, or other reforms aimed at reducing the weight of origin criteria in the system, could be facilitated by introducing a well-designed and flexible equalization mechanism and by transparently using discretionary transfers to compensate for some of the losses from the reforms.

Although the design of a comprehensive reform blueprint is beyond the scope of this chapter, the following general considerations may apply:

1. **Maximize the chances of political acceptability of proposed reforms.** Another objective should be broad maintenance of the vertical distribution of the transfer system as a whole, although not necessarily of its individual components (e.g., the vertical sharing coefficients of the State and Municipal Participation Funds). A reform package that was seen by any of the three

²⁶ See, among others, Ahmad (1997), Ahmad and Brosio (2006), and Boadway and Shah (2007) for comprehensive reviews of the theory and international practice with intergovernmental transfers.

levels of government as likely to alter this distribution to its disadvantage would naturally be opposed by all the members of that level, most likely severely undermining its political viability.

2. **Consider altering the current vertical revenue-sharing coefficients** depending on reforms in other components of the transfer system and on the progress with the other recommended tax reforms.²⁷ Substituting non-shared federal contributions with a VAT (and an also desirable merger of the corporate income tax surcharge with the income tax) would substantially expand the base of these revenue-sharing mechanisms, requiring a corresponding adjustment of the sharing coefficients to preserve the current vertical equilibrium.
3. **Implement the recently legislated shift in distributing petroleum royalty revenue only on new contracts** to allow the states and municipalities adversely affected by the change to adjust, without burdening the federal government with heavy compensation costs. The shift, which assigns revenue to the state and municipal levels in line with the criteria of the State and Municipal Participation Funds, is justified on equity grounds. Sharing across and within levels of government is likely to remain the subject of considerable controversy in the period ahead.
4. **Consider introducing mechanisms to stabilize (or at least smooth) transfers over the cycle** as part of a reform of revenue-sharing arrangements. Possible approaches include basing transfers on a moving average of the shared revenue or on cyclically adjusted values; requiring recipient governments to use a portion of the transfers as rainy day funds; and eliminating the estimated impact of countercyclical central government revenue measures from the basis of the revenue sharing.
5. **Concentrate reform efforts on improving the cost-effectiveness of other intergovernmental transfers** (block grants for education and health, and special-purpose grants) by more systematically using appropriate indicators of performance to achieve the stated objectives of the program or project (along the lines of the FUNDEB approach discussed above).
6. **Create well-designed equalization mechanisms** to replace the current horizontal distribution formulas of the State and Municipal Participation Funds.

²⁷ A shift of the ICMS to a destination basis should be accompanied by a change in the basis of calculation of the portion shared with the municipalities from production to consumption.

Desirable Features of a Transfer System

Considering the recently approved reform of the State Participation Fund, a first-best equalization system should aim to equalize the capacity of the different states to provide a standard set of goods and services for which they are responsible, with average degrees of own-source revenue effort and spending efficiency (along the lines of the system used in Australia).²⁸ Unfortunately, in Brazil there are currently no conditions for implementing a full-fledged equalization model for the following main reasons:

- There are wide differences in the rate structure and the definition of the base across states for the ICMS, which is the principal own-source tax for the states. This makes it very difficult to estimate a representative state tax system (as in the Australian and Canadian equalization systems), and therefore to calculate the revenue-raising potential (the taxing capacity) of each state.
- Alternative methods to estimate revenue potential (e.g., using regression-based or stochastic frontier analyses²⁹) are equally constrained by the lack of reliable standardized data on the state tax bases.
- Reliable information on the cost structure of the main categories of state expenditures is also missing and would be required to calculate spending needs at an average level of efficiency.

Given these limitations, there would be two possible basic approaches to reforming the system in the near term. One would limit equalization on the revenue side and use actual basic revenue³⁰ of each state as a proxy for its revenue capacity on a per capita basis. The other (a parametric approach) would base the distribution formula on indicators of revenue capacity and spending needs using population and GDP per capita, as well as other variables, such as geographic characteristics, poverty, and other human development indices. There are international examples of both approaches and there have been advocates for both in Brazil (Mendes, Miranda, and Cosio, 2008; Rocha, 2010; Prado, 2012; Ter-Minassian, 2011, 2012).

²⁸ See Ahmad and Searle (2006), Dafflon (2007), Wilson (2007), and Reschovsky (2007) for detailed discussions of methodological issues in the design of equalization transfers.

²⁹ See Fenochietto and Pessino (2010) for a discussion of stochastic frontier techniques in estimating tax potential.

³⁰ Basic revenue is defined here to include all the state own-source revenue (current and capital, but excluding financing items) net of revenue shared with the municipalities, plus all transfers received from the federal government, except those of the State Participation Fund and those earmarked for specific spending.

The revenue-based approach would have the following advantages:

- Being simple, transparent, and easier to calculate and control, with very little delay given the shorter time lags involved in preparing and reporting state revenue compared to data on population and per capita GDP
- Ensuring a close correspondence between State Participation Fund transfers and individual states' capacity to spend³¹
- Facilitating a dynamic and timely response of State Participation Fund transfers not only to changes in socioeconomic conditions (such as population and per capita income), but also to other changes (e.g., in the royalty regime or in other intergovernmental transfers) that would affect the basic revenue per capita of individual states

However, a commission of Brazilian experts appointed by Congress to advise on reforming the Fund decided to recommend a parametric approach, probably because of its closer affinity with the existing distribution formula. The commission's advice has been reflected in a recently enacted reform which:

- maintains the existing distribution coefficients until the end of 2015 and
- for subsequent years, mandates that each state's transfer be calculated according to a two-step procedure:
 - i. Update the state's previous year's transfer for inflation, plus 75 percent of the real growth rate of national GDP.
 - ii. Distribute the excess of the total Fund for the year over the sum of the transfers so calculated according to population and the inverse of GDP per capita.

This formula implies that redistribution of the Fund transfers among the states will be quite gradual, as it will depend on the extent to which the real rate of growth of federal revenue shared with the states exceeds 75 percent of the real growth of GDP.

³¹ The fact that the total amount of the State Participation Fund in any given year is determined by collecting the shared federal taxes, and therefore independent of the states' behavior, implies that reductions in own-source revenue efforts by individual states would be only partly compensated by increases in transfers from the Fund, thus limiting the potential disincentive effect of using actual, instead of potential, revenue.

Conclusions

There is wide consensus in the literature, as well as among economic agents in Brazil, that the current tax system is a significant impediment to the country achieving a sustained higher growth rate. Not only is the overall tax burden relatively high compared with those prevailing in most of Brazil's competitors and in light of the level and quality of public goods and services received by the population, but also the system is fraught, at all levels of government, with important distortions, horizontal inequities, and very high compliance costs. Since macroeconomic imperatives and pressing spending needs (especially in investment) make a significant reduction of the overall tax burden unfeasible in the foreseeable future, it is all the more important to implement broadly revenue-neutral reforms aimed at simplifying the tax system, while making it more efficient and equitable.

Despite widespread recognition of these weaknesses, to date, the resistance of governments and other economic agents that would be adversely affected by such reforms has stymied reform efforts. It can be hoped that, in the not too distant future, as the costs of the distortions, especially in terms of competitiveness and intergovernmental conflicts, grow higher and more evident, sufficient political will may be found to overcome such resistance. In recent years, the Supreme Court, through a number of rulings, has pressured the other branches of government to address some of the most glaring distortions.

This chapter has focused in particular on reform needs in the state and municipal revenue systems. This focus is justified by the relative importance of subnational own-source revenue in Brazil, compared with most other countries, especially in Latin America; by the significance of the weaknesses besetting both own-source and shared revenue; by the controversies currently surrounding the sharing of oil revenue; and by the fact that Supreme Court rulings mostly relate to state revenue.

Against the background of a critical review of own-source revenue and intergovernmental transfers, the chapter has outlined a comprehensive desirable reform agenda aimed at the following:

- Rationalizing the ICMS and local sales tax, with a view to, reducing distortions and compliance costs
- Strengthening municipal taxation of real estate
- Streamlining the complex system of intergovernmental transfers
- More equitably distributing the benefits of revenue from non-renewable resources, especially oil and gas, among subnational governments

- Transforming the State and Municipal Participation Funds into more effective equalization systems

Specifically on the first point, a first-best strategy would involve consolidating most current federal and subnational indirect taxes and contributions into a dual (federal and state) VAT, with a common base uniformly defined across the country. States would maintain limited flexibility in setting their rate schedule, within a band set by the Senate. The state VAT would be collected at origin, but its revenue would be redistributed on a destination basis. This would eliminate the current scope for predatory tax competition among the states. Merging the municipal sales tax into the state VAT would facilitate administration of the tax and bring the most dynamic component of GDP into the base of the VAT. Municipalities could be compensated for the loss of this tax handle with increased revenue sharing with the states and combinations of a transfer of the state tax on vehicles and creation of a low-rate retail sales tax.

An initial step in the direction of such a comprehensive reform could be agreement on a progressive reduction of the rates on interstate transactions to a low uniform level, as proposed by the federal government in 2012. Simulations of such an approach show that the losses suffered by states that are net exporters are in total manageable and could be compensated through the proposed fund. Also, some of the states that would benefit most from such a change are among those that would be losing most from a more equitable distribution of oil revenue, thus suggesting some scope for compensation among the states themselves. It is, however, unfortunate that even this modest step forward has not yet received adequate support in congress. In fact, the amendments recently proposed in the Senate would lose much of the gains in efficiency and simplification entailed by the government proposal.

Similarly, the recently enacted reform of the State Participation Fund falls short of what would be needed to transform the Fund into a proper equalization system because of its formula and the very protracted transition period envisaged. Therefore, it remains highly desirable over the longer term to create the conditions for implementation of a distribution system of shared revenue among the states aimed at better equalizing revenue capacity and spending needs. Adopting a uniform definition of the ICMS base (a reform priority in itself) and preparing a database on the states' tax bases (which should be facilitated by the ongoing adoption of electronic invoices) would facilitate a reliable estimation of the relative revenue-raising capacities of the states. Also, adequate progress in the incipient adoption by the states of modern cost accounting systems would facilitate the introduction of spending needs criteria in the distribution formula

of the State Participation Fund. The reform agenda for the whole intergovernmental transfer system, beyond reform of the Fund, remains rich and complex, and its pursuit over the medium term would certainly yield substantial gains in equity and efficiency.

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Fiscal Cumbia: Colombia's Revenue Dynamism

5

THE PACE OF FISCAL DECENTRALIZATION AT THE INTERMEDIATE AND LOCAL LEVELS OF GOVERNMENT IN COLOMBIA DURING THE PAST 15 YEARS HAS BEEN DISPARATE.¹

While the intermediate governments (departments) have generated little in additional own-source revenue in terms of gross domestic product (GDP), local governments (municipalities) have almost doubled theirs. The main explanation for such divergent trajectories lies in the difference between the two tax bases. While the departmental tax base—primarily the consumption of “non-merit” goods—is inelastic, municipalities enjoy a dynamic and growing tax base, encompassing urban and rural properties and urban economic activities.

To mobilize the own-source revenues of the departments, it is important to assign different tax bases. In this chapter, we suggest that the departments introduce a surcharge on the national value-added tax (VAT) or a retail tax. In contrast, increasing municipal own-source revenue requires more efficient exploitation of their existing tax bases. We suggest that municipalities can improve the efficiency of local tax collection by enhancing their administrative capacity and updating the local tax bases. The aim of this chapter is twofold: (i) to explore the changes required to strengthen the generation of own-source revenues in departments and municipalities, and (ii) to determine the effects of such actions on the financing structures and vertical imbalances of both levels of government.

The chapter is divided into four sections. The first section briefly reviews the fiscal decentralization process in Colombia, and its impact on subnational finances. The second discusses the evolution and determinants of departmental revenue and vertical imbalances, and the proposal that departments be allowed

¹ This chapter is a condensed version of Sánchez Torres, España Eljaiek, and Zenteno (2012).

to levy a VAT surcharge or a retail sales tax. The next section focuses on the evolution of municipal revenue and vertical imbalances, and presents empirical evidence about the scope for increasing such revenue through efficiency gains. The final section summarizes the study's main conclusions.

The Decentralization Process and Subnational Public Finances

Evolution of the Decentralization Process

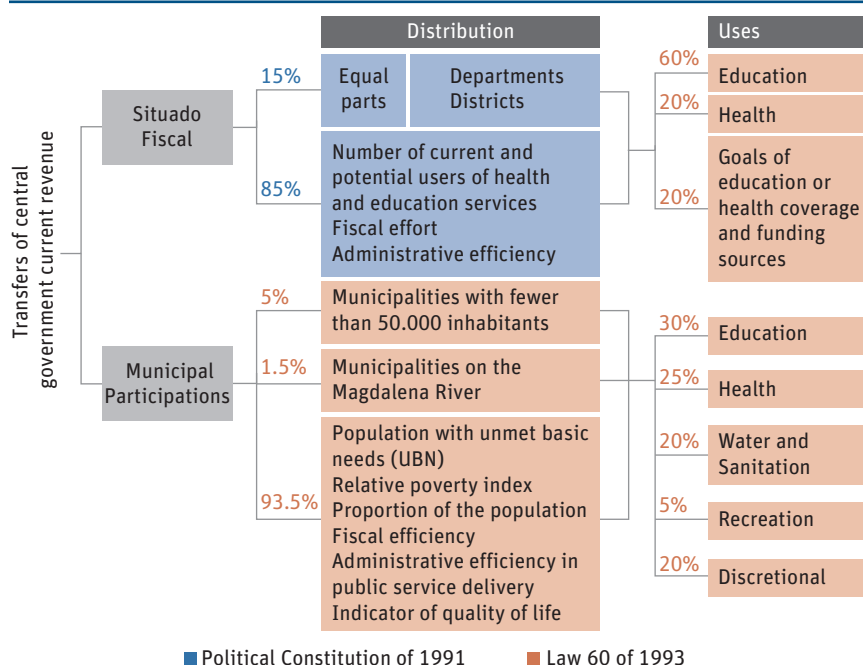
In Colombia, fiscal and political decentralization began at the end of the 1950s. The 1958 Constitutional Amendment allocated at least 10 percent of the national budget to subnational expenditures on education, marking the beginning of a “formal scheme of transfers” (Junguito and Rincón, 2009). The next steps were the 1968 Constitutional Amendment, which created the Situado Fiscal, the central government revenue transferred to the departments to finance education and health; Law 33 of 1968, which initiated the revenue-sharing system; and Laws 46 of 1971 and 14 of 1983, which aimed to strengthen municipal and departmental taxation.

The 1986 Constitutional Amendment affirmed the expectation that public goods should be provided by local governments based on the needs of the population. Local democracy should assure that public goods and services reflect such needs. Election of mayors and greater political participation of citizens through mechanisms such as the Local Administrative Boards would lead to a decentralization process in accordance with the above-mentioned principles.²

The 1991 Constitution ushered in a new stage of decentralization. Specifically, a set of laws was approved that substantially changed subnational governance and finances. A key change was the popular election of governors (Article 260 of the Constitution). As for fiscal decentralization, the Constitution introduced a new formula-based system of transfers, in which central government's current revenues (mainly national taxes) were to be shared with the departments through the Situado Fiscal, allocated to education and health, and with municipalities through Municipal Participation, to finance spending on education, health, and water and sewerage (Figure 5.1). The new institutional framework also defined the distribution of natural resource royalties among departments and municipalities (Articles 360 and 361 of the Constitution), which remained in effect until 2012.

The 1991 Constitution initiated a process of decentralization focused on the local provision of goods and services and on transfers, but it did not promote a

² The Local Administrative Boards were created in 1968, reformed in 1986, and legitimized in the 1991 Constitution. Local representatives, known as ediles, are chosen through open elections.

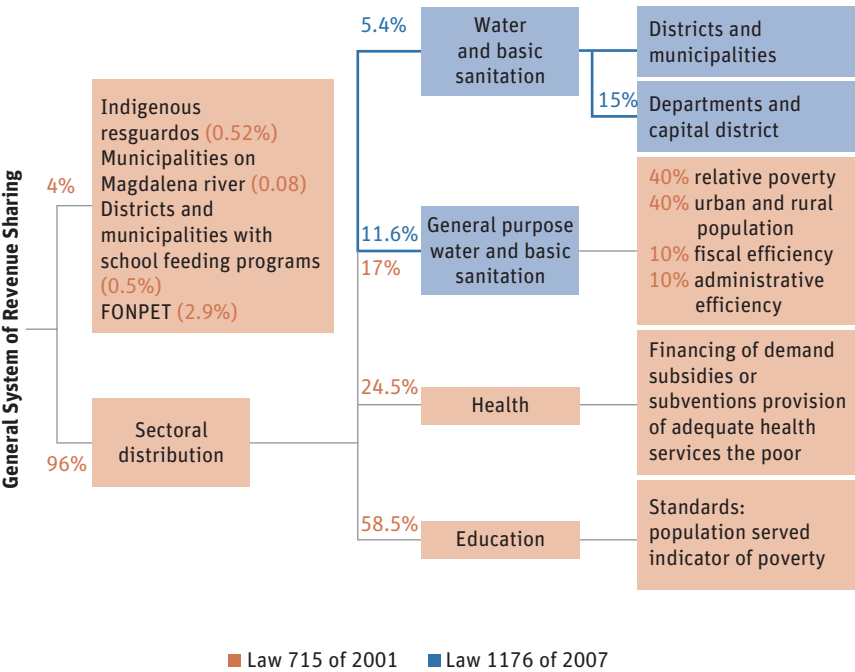
Figure 5.1 | Intergovernmental Transfer System, 1993–2001

Sources: Political Constitution of 1991 and Law 60 of 1993.

mobilization of subnational own-source revenues. During the 1990s, the departments and municipalities financed most of their expenditures through transfers from the central government, resulting in large vertical imbalances and, in most cases, fiscal deficits that threatened fiscal sustainability and macroeconomic stability (Sánchez and Zenteno, 2010). Between 1990 and 1999, subnational debt rose from 1.1 percent of GDP to 3.5 percent of GDP (Ministry of Finance and Public Credit, 2009).

To curb the growing indebtedness and fiscal indiscipline of subnational governments, two pieces of legislation were approved: Law 358 of 1997, which regulated the indebtedness of the territorial entities, and Law 617 of 2000, which established limits on growth in operating expenses. In addition to increasing the efficiency of transfers, the government reformed the transfer system (Figure 5.2). First, the government created a system of revenue sharing in which the amount of resources to be transferred was fixed, then it established an annual growth rate of 2 percent in real terms for these resources. In addition, the formulas to allocate transferred revenue among the subnational governments based on Law 60 of 1993 were changed by Laws 715 of 2001 and 1176 of 2007. Law 715 determined that

Figure 5.2 | Intergovernmental Transfer System, 2001 to present



Sources: Law 715 of 2001 and Law 1176 of 2007.

distribution of transfers would be based on the coverage and growth of the health and education services provided by the territorial entities, not on population and poverty rates—criteria that had been established in Law 60 of 1993.

In terms of own-source revenue generation, in 1988, Congress approved Law 488, which expanded the bases of some subnational taxes, such as the registration tax. In 2006, Congress approved Law 1111, which raised the cigarette tax rate. In order to increase financing for health services, Decree 127 of 2010 further raised the departmental tax rates on cigarettes and liquor, as well as the VAT on beer and gambling. Furthermore, the gasoline surcharge was unified, and a surcharge was levied on diesel. At the municipal level, the central government encouraged compilation of municipal tax rules, improvements in the efficiency of tax collection, and better control of tax evasion (Ministry of Finance and Public Credit, 2009), but did not change the bases nor the rates of the municipal taxes.

Main Trends in Regional and Local Government Finances

Trends in departmental and municipal finances—particularly spending—have been closely tied to the decentralization process. Albeit with some fluctuations,

departmental and municipal expenditures have increased over the years in relation to GDP, in accordance with growing responsibilities for providing public goods and services, and have largely been financed with transfers from the central government. Table 5.1 shows that total general government spending rose from 14.3 percent of GDP in 1994 to 21.8 percent in 2009. Most of this increase reflected growth (equivalent to more than 6 percent of GDP) in subnational expenditures. In contrast, subnational own-source revenue grew by only 1.2 percentage points, to 3.7 percent of GDP, over the same period. This implies that only 20 percent of the change in subnational spending as a percent of GDP was financed through greater fiscal effort on the part of the subnational governments, and local governments accounted for most of the increase.

The fiscal trends show that the subnational governments are increasingly financially dependent on the central government to provide the public goods and services they are responsible for. Such dependence is likely to reduce incentives to fulfill the main objectives of the decentralization process, namely responding to the needs of the population and efficiently providing public goods and services (Bardhan and Mookherjee, 2000; Faguet, 2006; Faguet and Sánchez, 2008; Weingast, 2009). To comply with these objectives, decisions about providing local or regional public goods and services should consider the marginal costs and benefits to the population. Such decisions are made through a political process that aims to promote effective communication of citizens' preferences to their elected representatives, as well as representatives' accountability to their constituents. Since 1991, Colombia has undertaken a deepening of its subnational democracy that, despite numerous problems, has generated a political process capable of responding to citizen demands. However, the fact that many subnational governments lack fiscal capacity and increasingly depend on transfers from central government adversely affects the accountability of local officials to their electorate, and thus the main objective of political decentralization. As Weingast (2009) points out, "(...) elections in the presence of fiscal dependence and opportunism become a means of political control rather than of citizen expression. Local government fiscal independence mitigates this perverse effect."

Revenue Mobilization in Departments

Structure and Evolution of Departmental Finances

According to the 1991 Constitution, Colombia has 32 departments that have been granted rights to govern under their own authority, exercise powers, manage resources and regional taxes, and share in national revenue. Departmental functions should complement those of the municipalities and should include

Table 5.1 | Central Government, Departmental, and Municipal Revenues and Expenditures, 1994–2009 (as a percentage of GDP)

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Central government own revenues	9.8	9.6	9.8	10.2	9.9	10.4	10.8	12.2	12.4
Central government tax revenues	8.6	8.2	8.5	9.0	8.8	8.9	9.4	11.0	11.0
Central government non-tax revenues	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other revenues	1.1	1.1	1.1	1.0	0.9	1.4	1.2	1.0	1.2
Central government expenditure	10.8	11.4	12.8	13.4	13.9	15.6	15.4	16.6	16.4
Current expenditure	9.1	9.6	10.9	11.2	12.6	14.3	14.1	15.4	15.2
Transfers	5.3	5.7	6.7	6.7	7.3	8.6	8.0	8.9	8.8
Transfers to subnational governments	3.1	3.2	4.4	4.7	5.3	6.2	5.3	6.5	6.6
Departments	1.8	1.7	2.6	2.9	3.3	4.0	3.3	4.2	4.2
Constitutional transfers	1.6	1.5	1.9	1.7	1.8	2.3	1.8	2.4	2.1
Other transfers	0.2	0.3	0.8	1.1	1.4	1.7	1.5	1.7	2.1
Municipalities	1.4	1.4	1.7	1.8	2.0	2.2	2.1	2.3	2.4
Constitutional transfers	1.4	1.4	1.7	1.8	2.0	2.2	2.1	2.3	2.4
Other central government transfers	2.1	2.6	2.3	2.0	2.0	2.4	2.7	2.4	2.2
Central government payroll	2.1	2.1	1.9	1.9	2.1	2.3	2.2	2.3	2.3
Debt interest	1.0	1.0	1.6	1.7	2.4	2.8	3.2	3.3	3.2
Other current expenditure	0.8	0.7	0.7	0.9	0.8	0.7	0.7	0.8	0.8
Central government investment	1.7	1.8	1.9	2.2	1.4	1.2	1.3	1.3	1.2
Total departmental revenue	3.0	2.9	3.9	4.1	4.5	5.3	4.6	5.6	5.5
Own departmental revenues	1.0	1.0	1.0	1.1	1.0	1.0	1.0	1.0	0.9
Departmental tax revenues	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9
Departmental non-tax revenues	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.2	0.1
Royalties	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4
Cofinancing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Constitutional transfers	1.6	1.5	1.9	1.7	1.8	2.3	1.8	2.4	2.1

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
12.7	13.0	13.5	14.8	15.1	15.7	15.4	13.8	15.2	16.1
11.5	11.9	12.4	13.4	13.4	13.4	12.9	12.3	13.5	14.3
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1.0	0.9	1.0	1.2	1.5	2.1	2.3	1.4	1.6	1.6
16.6	16.5	17.4	17.6	17.8	17.4	19.0	17.2	17.1	18.0
15.5	15.5	16.1	16.2	15.9	15.3	16.7	15.1	14.7	15.1
8.9	9.3	10.2	9.6	9.4	9.6	10.9	9.6	9.5	9.8
6.3	6.4	6.2	5.8	5.6	5.6	6.0	5.9	5.6	5.4
3.9	3.7	3.5	3.3	3.1	3.1	3.3	3.2	3.0	2.9
2.2	1.7	1.6	1.6	1.5	1.4	1.5	1.5	1.4	1.4
1.7	2.0	1.9	1.8	1.7	1.6	1.7	1.7	1.6	1.5
2.4	2.7	2.7	2.5	2.5	2.5	2.8	2.7	2.6	2.6
2.4	2.7	2.7	2.5	2.5	2.5	2.8	2.7	2.6	2.6
2.6	2.9	4.0	3.8	3.8	4.0	4.9	3.6	3.9	4.4
2.3	2.1	2.2	2.2	2.0	2.0	2.2	2.2	2.0	2.1
3.5	3.3	2.9	3.5	3.5	2.9	2.9	2.6	2.5	2.4
0.8	0.7	0.8	0.9	0.9	0.8	0.7	0.8	0.7	0.8
1.1	1.0	1.3	1.4	1.9	2.2	2.2	2.1	2.4	2.8
5.4	5.2	5.2	4.9	4.7	4.6	4.9	4.9	4.6	4.3
1.0	1.1	1.2	1.1	1.1	1.0	1.1	1.1	1.0	1.0
0.9	0.9	1.0	0.9	0.9	0.9	0.9	0.9	0.8	0.8
0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2
0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.4
0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
2.2	1.7	1.6	1.6	1.5	1.4	1.5	1.5	1.4	1.4

(continued on next page)

Table 5.1 Central Government, Departmental, and Municipal Revenues and Expenditures, 1994–2009 (as a percentage of GDP) *(continued)*

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Other transfers	0.2	0.3	0.8	1.1	1.4	1.7	1.5	1.7	2.1
Departmental expenditure	3.2	3.0	3.7	4.6	4.6	5.4	4.8	5.1	5.7
Total municipal revenue	2.8	3.0	4.4	4.4	4.5	5.4	4.8	4.9	5.3
Own municipal revenue	1.4	1.5	1.7	1.7	1.8	1.9	1.7	1.7	1.9
Municipal tax revenues	1.1	1.1	1.2	1.3	1.4	1.5	1.4	1.5	1.5
Municipal non-tax revenues	0.3	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.4
Royalties	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Constitutional transfers	1.4	1.4	1.7	1.8	2.0	2.2	2.1	2.3	2.4
Cofinancing	0.0	0.0	0.2	0.3	0.2	0.1	0.1	0.1	0.1
Other	0.0	0.0	0.6	0.4	0.4	1.1	0.8	0.6	0.7
Municipal expenditures	3.4	4.1	4.9	4.9	5.2	6.1	5.6	4.9	5.7
Total revenues (net of transfers)	12.6	12.7	14.7	15.4	15.2	16.8	16.7	18.1	18.8
Own revenue of subnational governments	2.4	2.5	2.7	2.8	2.8	2.9	2.7	2.7	2.8
Total expenditure (net of transfers)	14.4	15.5	17.8	19.2	19.9	22.6	21.9	21.8	23.3
Spending of subnational governments	6.6	7.1	8.6	9.4	9.8	11.5	10.4	9.9	11.4
Nominal GDP (millions of pesos)	78,653,000	99,329,000	120,020,000	146,499,000	168,600,000	180,887,000	208,531,000	225,851,000	245,323,000

Sources: Banco de la Republica, National Department of Statistics (DANE), and National Department of Planning (DNP).

serving as intermediaries between the municipalities and the central government. It is well documented in the Colombian literature on decentralization that from the mid-1990s to the late 2000s, departmental spending increased steadily.³ This trend reflects the devolution of additional responsibilities for public goods

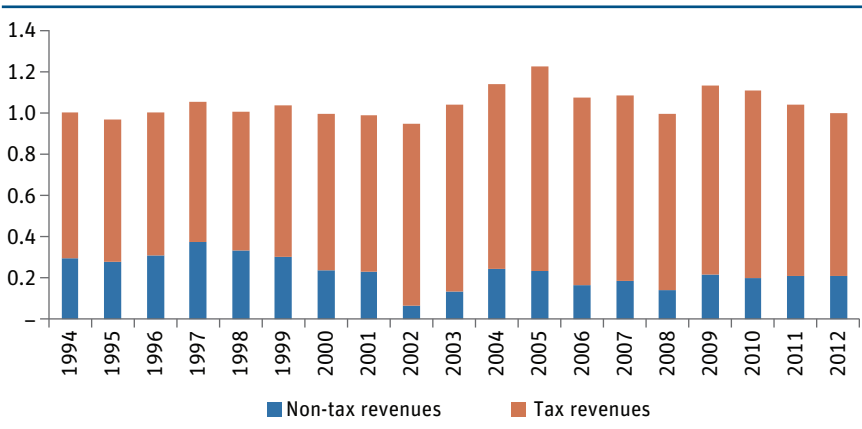
³ For example, see Iregui et al., 2003 and 2004; Meisel and Barón, 2003; National Federation of Departments, 2009; Ministry of Finance and Public Credit, 2009; Sánchez Torres and Zenteno, 2010; and Zapata, 2010.

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1.7	2.0	1.9	1.8	1.7	1.6	1.7	1.7	1.6	1.5
5.0	4.9	5.2	5.1	5.2	4.8	5.1	5.1	4.8	4.0
5.1	5.4	5.8	6.1	5.5	5.8	6.2	6.0	5.9	5.7
2.1	2.3	2.4	2.5	2.3	2.2	2.4	2.4	2.3	2.5
1.6	1.7	1.8	1.9	1.9	1.9	2.1	2.0	1.9	2.0
0.5	0.6	0.6	0.6	0.4	0.4	0.3	0.4	0.3	0.5
0.3	0.3	0.2	0.3	0.3	0.4	0.4	0.3	0.4	0.2
2.4	2.7	2.7	2.5	2.5	2.5	2.8	2.7	2.6	2.6
0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1
0.3	0.2	0.5	0.6	0.3	0.6	0.6	0.4	0.5	0.4
6.1	6.2	6.2	5.4	5.7	6.5	6.8	6.8	6.2	5.1
18.7	19.3	20.3	21.6	21.3	22.3	22.7	20.5	21.9	23.1
3.2	3.4	3.6	3.6	3.4	3.2	3.5	3.5	3.3	3.5
23.1	23.2	24.5	24.0	24.8	24.8	26.7	24.9	24.2	23.2
11.1	11.1	11.4	10.5	11.0	11.3	12.0	11.9	11.0	9.2
272,345,000	307,762,000	340,156,000	383,898,000	431,072,000	480,087,000	504,647,000	544,924,000	621,615,000	664,473,000

and services to departments, particularly education and health, rather than departments' autonomous decisions (Iregui, Melo, and Ramos, 2003).

However, while expenditures rose by 2.0 percentage points of GDP between 1994 and 2009, decreasing 1.1 percentage point between 2009 to 2012, own-source revenue increased by only 0.1 percent of GDP during the same period, decreasing by 0.1 percent in 2012 (Figure 5.3). The tax component of this revenue also rose only modestly, from less than 0.8 percent of GDP in 1994 to nearly 1 percent of GDP in 2009, decreasing 0.1 percent in 2012, reflecting the low income elasticity of the taxes that constitute the main source of tax revenue.

Figure 5.3 ■ Departmental Own-Source Revenue, 1994–2012
(as a percentage of GDP)



Source: Authors’ calculations based on data from DNP.

Departments levy more than 10 types of taxes; however, 62 percent of revenue originates from taxes on four categories of products: beer, liquor, tobacco and cigarettes, and vehicle registration. Of the top five taxes, those on beer and liquor have the largest shares (Table 5.2).

The low income elasticity of departmental taxes, in addition to the few incentives to generate own-source revenue, implies that central government transfers are the main source of departmental financing. The other resources are royalties and other non-tax revenues.⁴ Royalties, which fluctuated between 0.2 percent and 0.45 percent of GDP in recent decades, are concentrated in a few mineral and oil-producing departments. In 2011, the Colombian Congress decided to reform the constitution, establishing that royalties would be distributed across all subnational governments. The objective of this reform was to achieve regional equity in allocating royalties and to reduce incentives for corruption related to the concentration of those large resources in just a few entities. Nonetheless, the reform increases the vertical imbalances of subnational governments, as it reduces incentives to mobilize own-source revenues.

Shared revenue represented 1.7 percent of GDP in 1994 and 1.8 percent in 2009. The highest percentage was achieved in 2002, when it reached 2.3 percent of GDP. After that year, shared revenue as a percent of GDP declined because

⁴ A further source of departmental financing is debt. Table 2 indicates that departmental debt as a percentage of both GDP and own-source revenue rose substantially during the 1990s, but declined in the 2000s following enactment of legislation to regulate subnational borrowing (Laws 617 of 2000 and 795 of 2003).

annual growth in transfers was set at 2 percent in real terms. Further, a portion of the transfers that in the previous framework (Law 60 of 1993) went to the departments now went directly to the municipalities (Law 715 of 2001). In contrast, discretionary transfers rose sharply in the mid-1990s and remained at a high level through most of the decade.

Law 60 of 1993 determined that 60 percent of departmental transfers should be spent on education, 20 percent on health, with the remaining 20 percent distributed between the two sectors, depending on goals of education or health coverage. The system established in 2001 required that 96 percent of transferred revenue under the General System of Revenue Sharing be spent as follows:

- 58.5 percent on education
- 24.5 percent on health
- 11.6 percent on general purposes
- 5.4 percent on water and sewerage⁵

From an international perspective, this degree of controlling allocation of transfers is very high.

As a result of the different dynamics of revenue and spending, the departments' vertical imbalance widened steadily, from 2.2 percent of GDP in 1994 to 3.0 percent in 2012, peaking in 2002 at 4.9 percent. Figure 5.4 shows how the departmental vertical imbalance was financed from 1994 to 2012. It indicates that both compulsory and discretionary transfers from the central government financed most departmental spending.

Analyzing the distribution of the imbalances among departments reveals a wide variance, ranging between 1.3 percent and nearly 79 percent of departmental GDP (Figure 5.5). The departments with lowest vertical imbalances are the most economically active, such as Antioquia and Valle, which generated 25 percent of total Colombian GDP in 2009 and have the most dynamic economic bases, including manufacturing and services. High vertical imbalances are not always associated with lower own-source revenue ratios. For instance, tax ratios are relatively high (around 3 percent of departmental GDP) in some of the poorer departments, probably reflecting relatively higher consumption of "non-merit" goods, such as alcohol and tobacco, than in more developed regions. In contrast, some of the richer departments have tax ratios under 2 percent. Such differences in the degree of fiscal effort among departments suggest that the scope to reduce vertical

⁵ The allocations to water and sewerage, and general purposes were determined by Law 1176 of 2007.

Table 5.2 Revenues, Expenditures, and Vertical Imbalances of Departments, 1994–2009 (as a percentage of GDP)

	1994	1998	1999	2000	2001	2002	2003
1. Expenditure function	3.1	4.4	5.2	4.6	5.0	5.6	5.0
1.1. Operating expenditure	0.6	0.8	0.8	0.7	0.6	0.7	0.7
1.2. Investment expenditure	2.5	3.6	4.4	4.0	4.4	4.9	4.2
1.2.1. Education	1.2	1.2	1.5	1.2	1.5	1.9	1.5
1.2.2. Health	0.4	0.5	0.6	0.5	0.6	0.4	0.3
1.2.3. Other social investment	0.4	1.7	2.0	2.0	2.0	2.2	1.7
1.2.4. Capital investment	0.4	0.2	0.3	0.3	0.2	0.5	0.7
2. Own revenues	1.0	1.0	1.0	1.0	1.0	0.9	1.0
2.1. Own tax revenue	0.7	0.7	0.7	0.8	0.8	0.9	0.9
2.1.1. Beer	0.2	0.3	0.2	0.2	0.2	0.2	0.2
2.1.2. Liquor	0.3	0.2	0.2	0.2	0.2	0.3	0.2
2.1.3. Tobacco and cigarettes	0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.1.4. Registration and annotation	0.0	0.1	0.0	0.1	0.1	0.1	0.1
2.1.5. Vehicle registration	0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.1.6. Other	0.0	0.0	0.1	0.1	0.1	0.1	0.2
2.2. Non-tax revenue	0.3	0.3	0.3	0.2	0.2	0.1	0.1
3. Vertical imbalance (2–1)	–2.1	–3.4	–4.2	–3.6	–4.0	–4.7	–3.9
4. Other sources of financing	2.0	3.6	4.4	3.9	4.7	4.7	4.5
4.1. Constitutional transfers	1.6	1.8	2.3	1.8	2.4	2.1	2.2
4.2. Other transfers	0.2	1.4	1.7	1.5	1.7	2.1	1.7
4.3. Royalties	0.2	0.2	0.2	0.4	0.4	0.4	0.4
4.4. Cofinancing	–	0.0	0.0	0.0	0.1	0.0	0.0
4.5. Other	0.0	0.1	0.1	0.2	0.1	0.2	0.2
5. Other expenditure	0.1	0.3	0.2	0.2	0.1	0.1	0.1
5.1. Debt interest	0.1	0.3	0.2	0.2	0.1	0.1	0.1
6. Total revenues (2+4)	3.0	4.6	5.4	4.9	5.7	5.7	5.6
7. Total expenditure (1+5)	3.2	4.6	5.4	4.8	5.1	5.7	5.0

2004	2005	2006	2007	2008	2009	2010	2011	2012
4.8	5.2	5.1	5.2	4.7	5.1	5.1	4.8	4.0
0.6	0.5	0.5	0.6	0.6	0.6	0.7	0.6	0.5
4.2	4.7	4.6	4.6	4.2	4.5	4.4	4.2	3.4
1.4	1.4	1.3	1.2	1.2	1.3	1.2	1.1	1.1
0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
2.0	2.3	1.8	1.6	1.6	1.9	1.9	1.7	1.6
0.4	0.7	1.2	1.5	1.2	1.1	1.2	1.2	0.6
1.1	1.2	1.1	1.1	1.0	1.1	1.1	1.0	1.0
0.9	1.0	0.9	0.9	0.9	0.9	0.9	0.8	0.8
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2
-3.7	-4.0	-4.0	-4.1	-3.8	-4.0	-4.0	-3.7	-3.0
4.2	4.2	3.9	3.7	3.8	3.9	3.8	3.7	3.5
1.7	1.6	1.6	1.5	1.4	1.5	1.5	1.4	1.4
2.0	1.9	1.8	1.7	1.6	1.7	1.7	1.6	1.5
0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.4
0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2
0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.3	5.4	4.9	4.7	4.8	5.0	5.0	4.7	4.5
4.9	5.2	5.1	5.2	4.8	5.1	5.1	4.8	4.0

(continued on next page)

Table 5.2 | Revenues, Expenditures, and Vertical Imbalances of Departments, 1994–2009 (as a percentage of GDP)*(continued)*

	1994	1998	1999	2000	2001	2002	2003
8. Fiscal balance (6–7)	–0.2	0.0	–0.0	0.1	0.6	–0.0	0.5
9. Public debt	0.7	1.1	1.2	1.4	1.2	1.1	0.9
10. Debt/own revenues	0.66	1.06	1.17	1.40	1.23	1.13	0.85
Nominal GDP (millions of pesos)	78,653,000	168,600,000	180,887,000	208,531,000	225,851,000	245,323,000	272,345,000

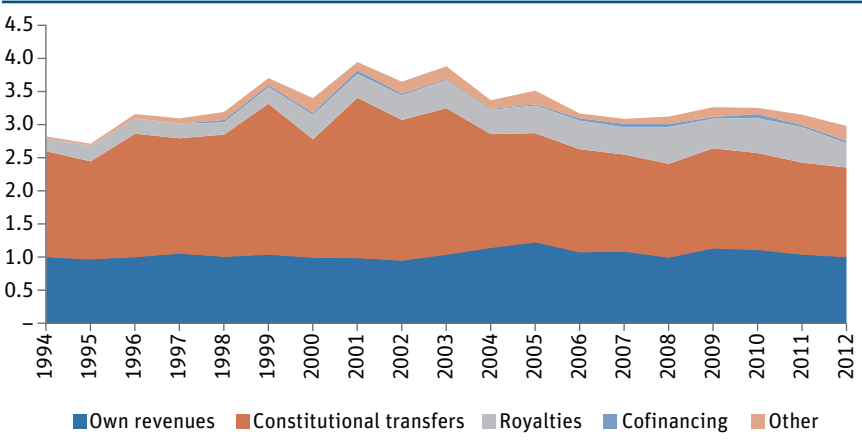
Source: Authors’ calculations based on DNP data.
Note: The years 1995–97 were removed to have room to show the full range of data.

imbalances is greater in the relatively well-off departments, where the imbalances are already smaller, than in the poorer ones, which will likely continue to depend on transfers for the foreseeable future.

Options to Increase Departmental Own-Source Revenues

All the taxes levied by the departments are defined and regulated by national laws. Departments have little power, except in deciding which of these taxes to collect and how to collect them (Ojeda Peñaranda, 2006). Such limited autonomy means that departments have little scope to increase own-source revenue through more rigorous tax effort. Moreover, their current tax bases have low income elasticity

Figure 5.4 | Vertical Imbalances (percentage) and Sources of Financing (as a percentage of GDP), 1994–2012

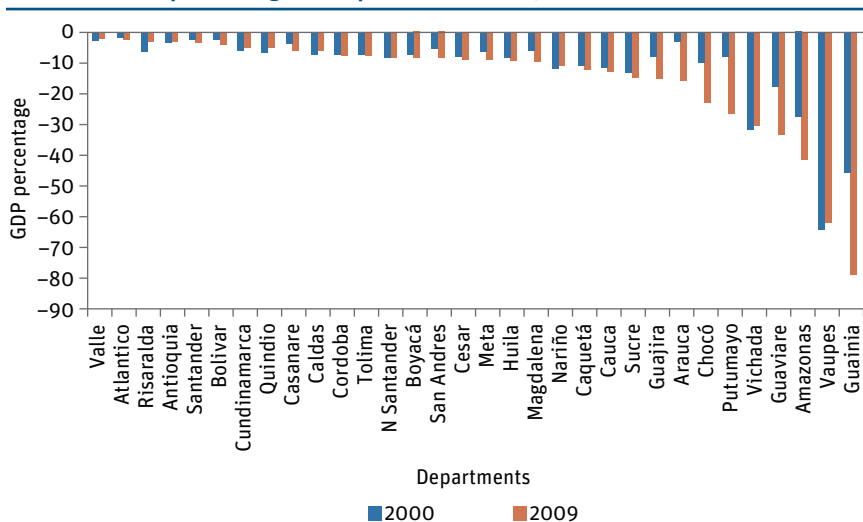


Source: Authors’ calculations based on data from DNP.
Note: The numbers above the year refer to the vertical imbalances (percentage).

2004	2005	2006	2007	2008	2009	2010	2011	2012
0.5	0.2	-0.2	-0.5	-0.0	-0.1	-0.2	-0.1	0.5
0.7	0.6	0.4	0.5	0.4	0.4	0.4	N.A.	N.A.
0.58	0.47	0.41	0.43	0.40	0.37	0.37	N.A.	N.A.
307,762,000	340,156,000	383,898,000	431,072,000	480,087,000	504,647,000	544,924,000	621,615,000	664,473,000

because they essentially consist of consumption of non-merit goods, which tends to decline as a percentage of income as living standards rise. Also, being highly concentrated on a few goods, tax rates must be high. This encourages smuggling, further eroding the tax base. Finally, departmental taxes tend to be difficult to monitor, complex, and inflexible and, because of their characteristics, more exposed to economic cycles (Zapata, 2010; National Federation of Departments, 2009; Government of Antioquia, 2009; and Ramirez, Osorio, and Parra Peña, 2007). Thus, for the departments, mobilizing new own-source revenues is crucial to generating adequate resources to finance the decentralized social services

Figure 5.5 Vertical Imbalances of Departments, 2000 and 2009 (as a percentage of departmental GDP)



Source: Authors' calculations based on data from DNP.

and infrastructure needed for regional development, and to reduce the growing vertical imbalances.

Various specialists have made proposals to mobilize new departmental revenues, but the majority of them have stressed increasing existing departmental taxes (Zapata, 2010) or modifying some aspects of administration, such as creating a departmental tax code (National Federation of Departments, 2009). Other proposals advocate creating a compensatory system of transfers to eliminate regional inequalities, which would, however, translate into greater vertical imbalances. Such proposals are inadequate for the task at hand because the main problems of Colombian departmental taxes are associated with the characteristics of the taxed goods. Improving efficiency in tax collection is a desirable goal, yet it is not sufficient to increase own-source revenue in a way that substantially reduces vertical imbalances.

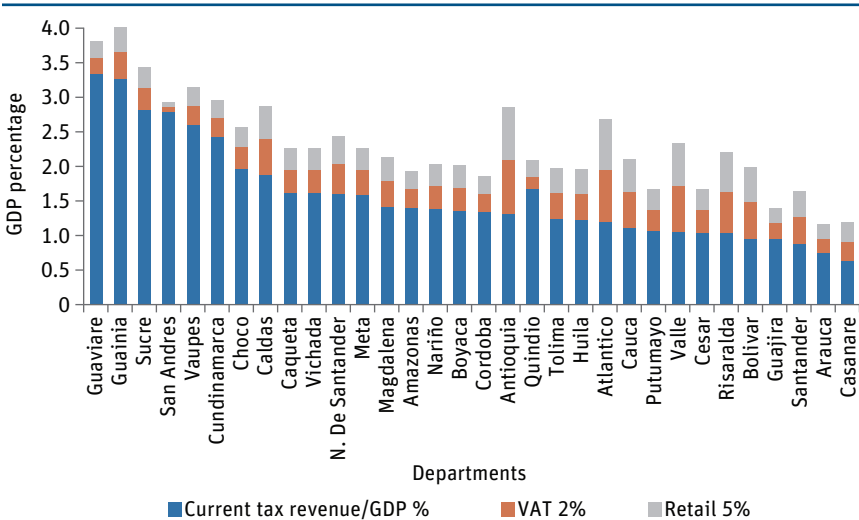
Numerous options for increasing local revenue in decentralized governments have been suggested in the international literature (for example, Okun, 1971; Kotikloff, 1993; Cremer, Marchand, and Pestieau, 1996; Feenber, Mitrusi, and Poterba, 1997; Bardhan and Mookherjee, 2000; Berg, Tepper Marlin, and Heydarpour, 2002; Haughwout, Inman, Craig, et al., 2003). This chapter analyzes the applicability of two such instruments to Colombia: a retail sales tax and a VAT surcharge. Surcharges on personal or corporate income taxes—instruments frequently used by regional governments in advanced countries—are not considered here because in Colombia relatively few taxpayers pay the individual income tax and because it would be difficult to apportion the taxes on profits of enterprises operating in different parts of the country.

As in the case of municipal taxes, each department should have the autonomy to set the VAT surcharge and the retail tax rate within a range established by national law. The fact that the departments would determine the rates of a VAT surcharge or a retail sales tax through a political process is precisely what makes those revenues “own-source.” The surcharge in particular should not be regarded as additional revenue sharing, but rather as a regional tax that has the same base as the national VAT. Moreover, allocating the additional revenue to various programs would be decided through the political process, with public consultation.

Both a VAT surcharge and a retail sales tax have substantial potential to collect revenue since they have dynamic tax bases associated with manufacturing and services. Moreover, there would be no need for a new administrative structure to manage collection of a VAT surcharge, because it could be delegated to the National Tax and Customs Office, through its regional offices.

Kotikloff (1993) and Feenber et al. (1997) found a retail sales tax comparatively efficient, suggesting it would have positive effects on savings. Also, a retail

Figure 5.6 Impact of a VAT Surcharge and a Retail Sales Tax on Departmental Tax Revenue (as a percentage of departmental GDP)



Source: Authors' calculations based on data from DNP, DANE, and the National Tax and Customs Office.

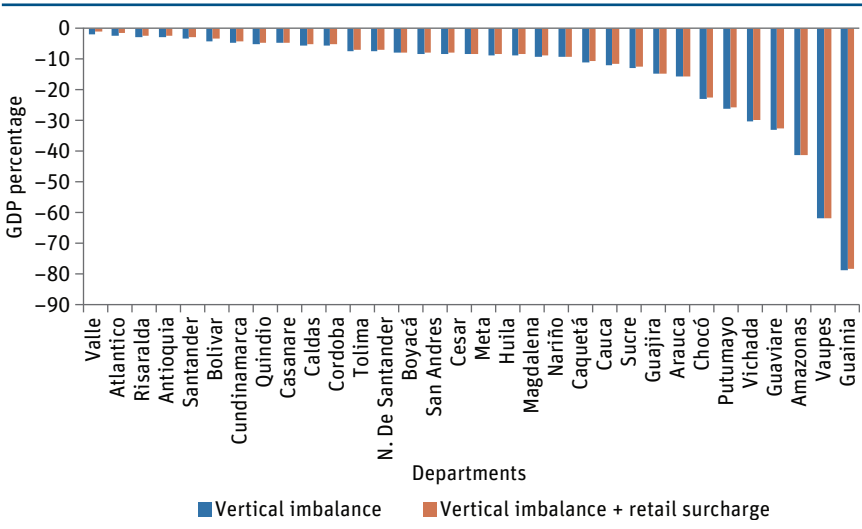
sales tax, being levied directly on final consumption, which tends to be more evenly distributed nationally than production, would suffer less than a VAT surcharge from concentration in the most industrialized regions, which exacerbates existing regional differences in economic and social development. On the other hand, a retail tax would be more subject to evasion given the highly fragmented and informal nature of the retail sector in Colombia.

Using information from the National Tax and Customs Office on VAT collections by department,⁶ Sanchez, et al. (2012) simulated the revenue impact of a 2 percent departmental surcharge on the VAT and a retail sales tax levied at a rate of 5 percent. The results of these simulations, shown in Figure 5.6, suggest that the VAT surcharge and the retail sales tax would represent significant sources of revenue for all departments (except San Andres). As expected, the departments with economic activities concentrated in industry and services (e.g., Valle, Atlántico, Risaralda, and Antioquia) would record the largest increases in these new own-source revenues.

Figure 5.7 shows the impact of the new sources of revenue on departmental vertical imbalances. Since all departments' revenues would increase, the overall

⁶ For a detailed description of the methodology and assumptions used in these simulations, see Sanchez, et al. (2012).

Figure 5.7 | Impact of 5 Percent Retail Sales Tax and 2 Percent VAT Surcharge on Vertical Imbalances of Departments (as a percentage of departmental GDP)



Source: Authors’ calculations based on data from DNP, DANE, and the National Tax and Customs Office.

vertical imbalance would decline by an estimated 15 percent, which is equivalent to 0.8 percent of national GDP. However, the reduction would be significant only in relatively richer departments, ranging from 20 percent to more than 70 percent of the current imbalance. In the remaining departments, the drop in vertical imbalances would be under 10 percent. In the poorest and most rural departments the reduction would be, in some cases, under 1 percent.

Table 5.3 presents the results of a cross-section ordinary least squares (OLS) econometric model to explain the variance of departmental tax revenue as a proportion of GDP for both the current departmental taxes and the above-mentioned estimated revenue of a departmental surcharge on the VAT. The model includes the following explanatory variables: the structure of economic activity, including the shares of manufacturing and services in GDP; the proportion of urban population in each department; and per capita GDP.

Column 1 presents the estimated coefficients for departmental VAT collection as a percentage of departmental GDP. The results indicate that the shares of industry and services, as well as GDP per capita, affect the VAT collection ratio positively and significantly. The results also imply that VAT revenue should rise as a result of changes in the composition of output—more industry and services in GDP—and of economic growth. Thus, the proposed surcharge would not suffer from the low elasticity that characterizes the current

Table 5.3 | Results of Cross-Section OLS Econometric Model

Variables	VAT/GDP	Departmental Taxes/GDP
Share of manufacturing in GDP	0.0680*** [3.069]	0.00196 [0.164]
Share of services in GDP	0.0324*** [2.897]	0.0153* [1.828]
Urban population (percentage)	-0.00176 [-0.132]	-0.00190 [-0.215]
Per capita GDP	0.00969** [2.416]	-0.00259 [-0.827]
<i>San Andres</i> dummy		0.228*** [31.23]
Constant	-0.0134 [-1.236]	0.0100 [1.330]
Observations	33	32
R-squared	0.513	0.989
F	7.365	472.2

Source: Authors' calculations.

Notes: t-statistics in brackets; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

departmental taxes. The same conclusion may be drawn for the expected revenue from the retail sales tax.

The estimated coefficients in column 2 indicate that the current departmental taxes as a proportion of departmental GDP are weakly related to the structure of economic activity in the departments. Only the share of services in GDP affects collection of the current departmental taxes. The coefficient for services indicates that an increase of 0.1 percentage points in the services' share of GDP would raise the collection of taxes by 0.0015 (0.15 percentage points). Neither per capita GDP nor the urbanization rate would influence tax collection.

Revenue Mobilization in Municipalities

Structure and Evolution of Municipal Finances

Colombia has 1,098 municipalities and four special districts.⁷ The municipal governments are represented by mayors who are elected by popular vote for four-year terms without the possibility of immediate reelection. The most important progress

⁷ The four districts—Bogota Capital District; Santa Marta Touristic, Cultural, and Historical District; Cartagena Touristic, Cultural, and Historical District; and Barranquilla Special, Industrial, and Port District—are territorial entities characterized by their political, historic, touristic, or industrial importance.

in the decentralization process occurred in 1986, when a constitutional reform established that mayors would be elected by popular vote. The first mayoral election was held in 1988. The greater political autonomy of municipalities was accompanied by increased municipal responsibilities to provide public goods and services such as healthcare, water and sewerage, and infrastructure for primary and secondary education. To provide these public goods and services, the municipalities would receive transfers from the central government and would be able to levy local taxes.

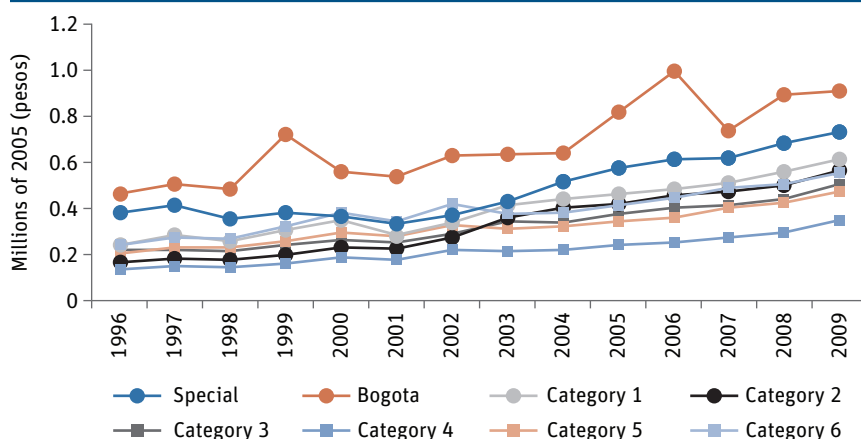
Municipal spending increased from 3.2 percent to 6.7 percent of GDP between 1994 and 2009, decreasing to 5.1 percent in 2012. Capital spending drove the increase (Table 5.4). Operating expenditures were restrained by measures such as Law 617 of 2000, which required that they be financed only with current non-earmarked revenue. Over the same period, municipal own-source revenue rose from 1.4 percent to 2.4 percent of GDP, increasing to 2.5 percent in 2012. This means that only 30 percent of the increase in spending (as a percent of GDP) was financed with additional fiscal effort by the municipalities. As a result, municipal vertical imbalances also increased, likely reducing the incentives for local governments to increase efficiency and respond to citizen preferences.

The municipal tax system is homogeneous across municipalities and includes 19 types of taxes and fees. Nevertheless, almost 90 percent of tax revenue is generated by the property and land tax (PLT), the industry and commerce tax (ICA), and the gasoline surcharge. Between 1996 and 2000, per capita municipal taxes did not change significantly. In 2001, they began to increase steadily, particularly because of the behavior of the PLT and ICA. The progress in tax collection can be attributed to tax reform laws, such as Law 488 of 1998 and Law 788 of 2003, which increased the base for some subnational taxes, such as the gasoline surcharge.

Figure 5.8 shows that municipal revenue has been increasing steadily since the mid-1990s, but that growth rates accelerated in all categories of municipalities after 2002.⁸ The increase is due to the change in the transfer distribution formula, with the creation of the revenue sharing mechanism, and higher local tax collections. Bogota and the special category municipalities have the highest per capita own-source revenue, while municipalities in the fourth category have the lowest. The differences across types of municipalities are explained by the sharp differences in economic and social development. Bogota and special category municipalities have more developed economies and large populations, while low population and high poverty characterize the fourth, fifth, and sixth categories. In 2009, own-source revenue was the main source of financing for Bogota and the

⁸ According to Law 617 of 2000, municipalities are classified into seven categories based on population.

Figure 5.8 | Per Capita Total Revenue by Municipal Category, 1996–2009
(in millions of 2005 pesos)

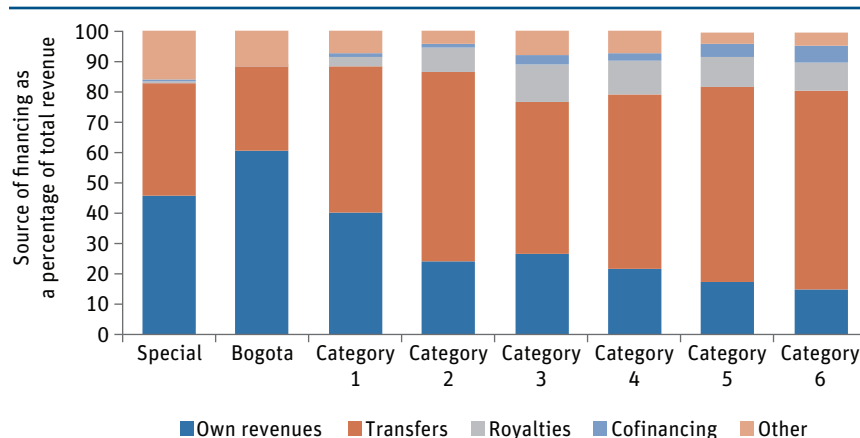


Source: Authors' calculations based on data from DNP.

municipalities in the special category. Thus, 60 percent of Bogota's revenue was from local sources, distinct from most other municipalities, which finance the bulk of their spending with central government transfers.

The municipalities in the third, fourth, fifth, and sixth categories depend highly on central government transfers. As shown in Figure 5.9, transfers account for 50 percent or more of their revenue.

Figure 5.9 | Sources of Municipal Financing, 2009 (as a percentage of total revenue)



Source: Authors' calculations based on data from DNP.

Table 5.4 Revenues, Expenditures, and Vertical Imbalances of Municipalities, 1994–2012 (as a percentage of GDP)

	1994	1998	1999	2000	2001	2002	2003
1. Expenditure function	3.2	4.8	5.8	5.4	4.7	5.5	6.0
1.1. Operating expenditure	1.6	1.4	1.5	1.4	1.2	1.2	1.2
1.2. Investment expenditure	1.6	3.4	4.3	4.0	3.5	4.2	4.8
1.2.1. Education	0.3	0.8	0.9	0.9	0.9	1.0	1.4
1.2.2. Health	0.3	0.7	0.8	0.8	0.9	1.1	1.1
1.2.3. Water and sewerage	0.3	0.4	0.5	0.6	0.5	0.5	0.5
1.2.4. Housing	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1.2.5. Other	0.6	1.4	1.9	1.6	1.1	1.6	1.7
2. Own revenues	1.4	1.8	1.9	1.7	1.7	1.9	2.1
2.1. Own tax revenue	1.1	1.4	1.5	1.4	1.5	1.5	1.6
2.1.1. Predial	0.4	0.5	0.5	0.5	0.5	0.5	0.5
2.1.2. Industry and trade	0.5	0.6	0.6	0.5	0.6	0.6	0.7
2.1.3. Fee on gasoline	0.0	0.0	0.0	0.2	0.2	0.2	0.3
2.1.4. Other	0.3	0.3	0.4	0.1	0.2	0.2	0.1
2.2. Non-tax revenue	0.3	0.4	0.4	0.3	0.3	0.4	0.5
3. Vertical imbalance (2–1)	–1.8	–3.0	–3.9	–3.8	–3.0	–3.6	–3.8
4. Other sources of financing	1.4	2.7	3.5	3.1	3.2	3.5	3.0
4.1. Transfers	1.4	2.0	2.2	2.1	2.3	2.4	2.4
4.2. Royalties	0.0	0.1	0.1	0.2	0.2	0.2	0.3
4.3. Cofinancing	0.0	0.2	0.1	0.1	0.1	0.1	0.0
4.4. Other	0.0	0.4	1.1	0.8	0.6	0.7	0.3
5. Other expenditure	0.2	0.3	0.3	0.2	0.2	0.2	0.1
5.1. Debt interest	0.2	0.3	0.3	0.2	0.2	0.2	0.1
6. Total revenues (2+4)	2.8	4.5	5.4	4.8	4.9	5.3	5.1
7. Total expenditure (1+5)	3.4	5.2	6.1	5.6	4.9	5.7	6.1
8. Fiscal balance (6–7)	–0.6	–0.7	–0.7	–0.9	0.1	–0.4	–1.0
9. Public debt	N.A.	1.3	1.3	1.6	1.6	1.5	1.2
10. Debt/own revenues	N.A.	0.72	0.70	0.98	0.90	0.79	0.59
Nominal GDP (millions of pesos)	78,653,000	168,600,000	180,887,000	208,531,000	225,851,000	245,323,000	272,345,000

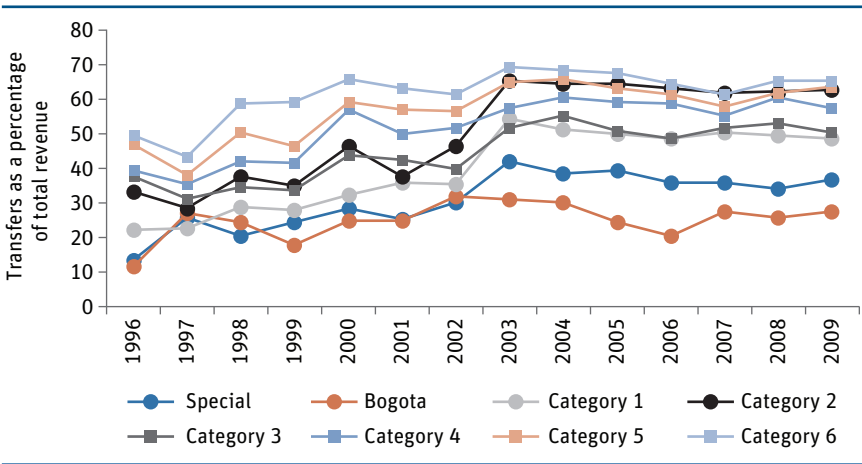
Source: Authors' calculations based on DNP data.

Note: The years 1995–97 were removed to have room to show the full range of data.

2004	2005	2006	2007	2008	2009	2010	2011	2012
6.1	6.0	5.3	5.6	6.3	6.7	6.7	6.2	5.1
1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	0.9
5.0	5.0	4.2	4.6	5.4	5.7	5.8	5.2	4.1
1.5	1.5	1.3	1.4	1.5	1.6	1.6	1.6	1.3
1.5	1.3	1.0	1.1	1.6	1.6	1.6	1.5	1.3
0.5	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1.5	1.5	1.4	1.6	1.7	2.0	2.0	1.7	1.2
2.3	2.4	2.5	2.3	2.2	2.4	2.4	2.3	2.5
1.7	1.8	1.9	1.9	1.9	2.1	2.0	1.9	2.0
0.6	0.6	0.6	0.5	0.5	0.6	0.6	0.6	0.6
0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.9
0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2
0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4
0.6	0.6	0.6	0.4	0.4	0.3	0.4	0.3	0.5
-3.8	-3.6	-2.7	-3.3	-4.1	-4.3	-4.4	-3.9	-2.6
3.2	3.4	3.5	3.3	3.6	3.8	3.6	3.6	3.3
2.7	2.7	2.5	2.5	2.5	2.8	2.7	2.6	2.6
0.3	0.2	0.3	0.3	0.4	0.4	0.3	0.4	0.2
0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1
0.2	0.5	0.6	0.3	0.6	0.6	0.4	0.5	0.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
5.4	5.8	6.1	5.5	5.8	6.2	6.0	5.9	5.7
6.2	6.2	5.4	5.7	6.5	6.8	6.8	6.2	5.1
-0.8	-0.4	0.7	-0.2	-0.7	-0.6	-0.8	-0.3	0.6
1.3	1.3	1.1	1.2	1.0	0.9	0.9	N.A.	N.A.
0.59	0.53	0.44	0.51	0.43	0.39	0.40	N.A.	N.A.

307,762,000 340,156,000 383,898,000 431,072,000 480,087,000 504,647,000 544,924,000 621,615,000 664,473,000

Figure 5.10 | Fiscal Dependence by Municipal Category (transfers as a percentage of total revenue)

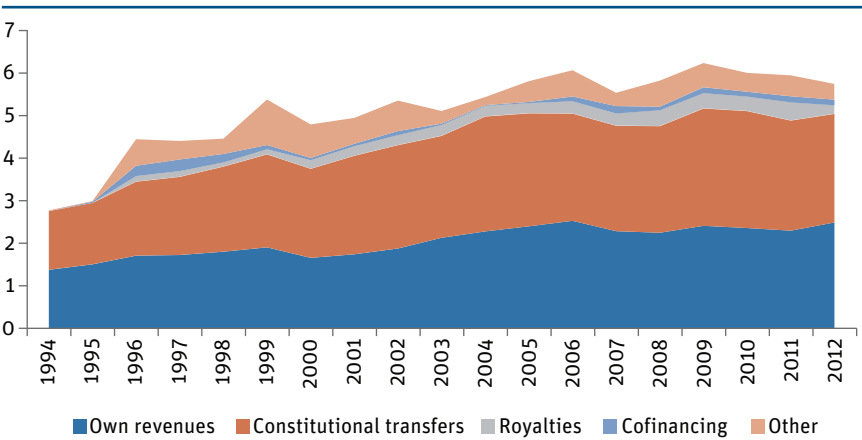


Source: Authors' calculations based on data from DNP.

Figure 5.10 shows that, in recent decades, dependence on transfers has evolved in different categories of municipalities. Data indicate that dependence increased until 2003, then declined somewhat, reflecting strong growth in own-source revenue. Dependence again increased in the aftermath of the global financial crisis.

Figure 5.11 shows that the vertical imbalance of municipalities increased as the rise of own-source revenue failed to keep up with the growth in spending.

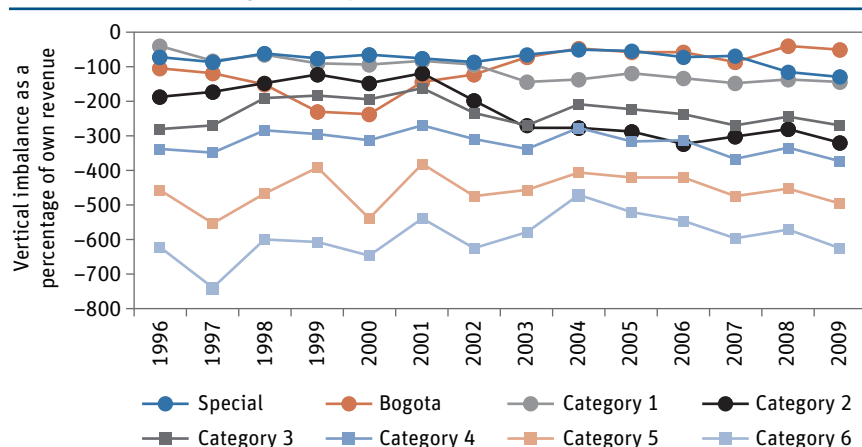
Figure 5.11 | Municipal Vertical Imbalance (percentage) and Sources of Financing (as a percentage of GDP), 1994–2012



Source: Authors' calculations based on data from DNP.

Note: The numbers above the year refer to the vertical imbalances (percentage).

Figure 5.12 Vertical Imbalances by Category of Municipality, 1996–2009
(as a percentage of own-source revenue)



Source: Authors' calculations based on data from DNP.

Shared revenue, which rose from 1.2 percent of GDP in 1994 to 3.2 percent in 2012, was the most important source of financing the vertical imbalance. Royalties, debt (cofinancing), and other transfers financed the remaining imbalance.

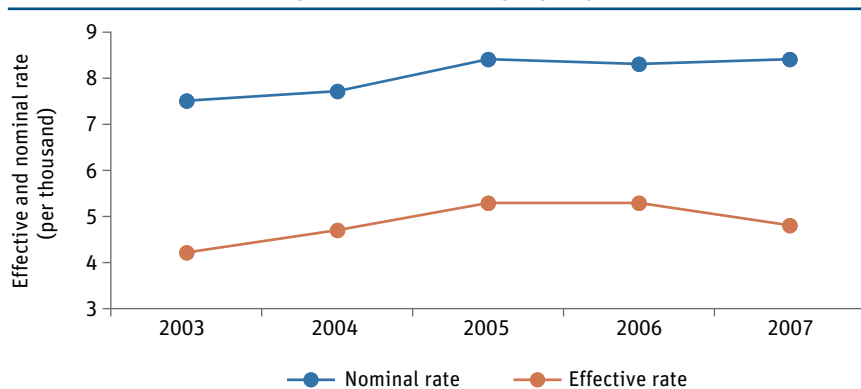
Figure 5.12 indicates that the municipalities in the fourth, fifth, and sixth categories show the highest vertical imbalances. The most extreme case is the sixth category, which in 2009 reached an average vertical imbalance of more than six times its municipalities' own-source revenues. Bogota's vertical imbalance, which was equivalent to 49 percent of its own-source revenue, was the lowest in 2009.

Determinants of Main Municipal Taxes

To increase municipalities' own-source revenue, local governments must strengthen collection of the PLT and the ICA, which account for most of the municipalities' own-source revenue and have been very dynamic in recent years. However, revenue potential remains underexploited, as evidenced by the significant differences between the statutory and effective rates, and, in the case of the PLT, between the assessed and market values of properties. To assess the potential revenue from these taxes, we focus on the determinants of the bases and revenue effort for both taxes.

Determinants of the Property and Land Tax

Law 44 of 1990 regulates the PLT. This law indicates that the local government is responsible for determining both the tax base and the rate. The law establishes that the municipal councils must set statutory rates within a range of 1 to 16 pesos per thousand pesos of assessed land value, with the exception of unutilized land

Figure 5.13 ■ Effective and Nominal Rates of the PLT, 2003–07 (pesos per thousand pesos of assessed property value)

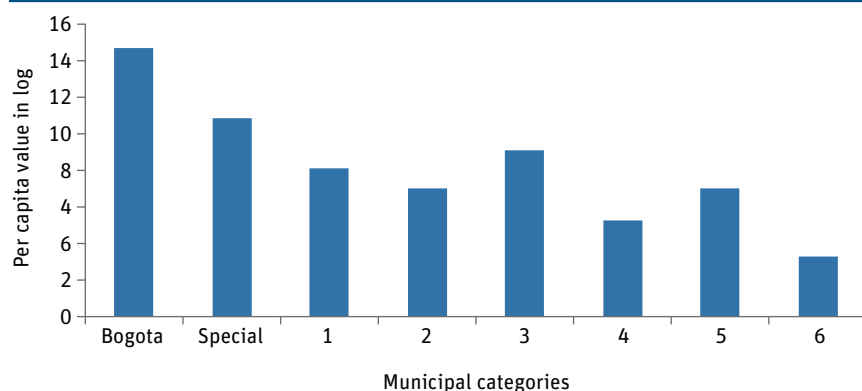
Source: DNP-IGAC Survey, 2008, based on 39 municipalities and CONPES (2009).

for which rates can reach up to 33 pesos per thousand. The law also stipulates that the tax rates should be set according to progressivity criteria. As for the tax base, a specialized office, the Agustín Codazzi Geographic Institute (IGAC), is in charge of assessing the value of both urban and rural properties across municipalities, except for Antioquia, Medellín, Cali, and Bogotá, which have their own cadastral offices. A reform of the property tax rates was included in the National Development Plan recently approved by Congress. It establishes that municipal councils should set the property tax rates between 0.5 percent and 1.6 percent for properties in the richer categories (4, 5, and 6). For the poorer categories (1, 2, and 3), the rates are to be kept between 0.1 percent and 1.6 percent.

According to a 2008 survey by DNP-IGAC, based on data for 39 municipalities, statutory rates tend to fall below the middle of the band. Moreover, there is a significant gap between the statutory and effective rates of the tax (Figure 5.13). This gap can partly be explained by discounts for prompt payment, exemptions for some properties, and delays in tax payments (CONPES, 2009).⁹ The main reason, however, is limited local capacity to collect taxes efficiently. According to Smolka and De Cesare (2010), factors such as updating property cadasters and tax evasion, in addition to low local per capita income, explain why some local governments succeed and others fail in collecting the PLT.

⁹ An earlier study by Iregui, et al. (2003) found that the gap ranged between 2 and 5 pesos per thousand pesos of value and could be explained by exemptions and exclusions granted by municipal councils, problems with administration and management, and the violence that affected many areas of the country.

Figure 5.14 ■ Per Capita Cadastral Assessment Value by Municipal Category (log value)



Sources: Authors' calculations based on data from IGAC and DNP.

The effective rate of the PLT is the ratio of the collected tax to the total value of the cadastral properties.¹⁰ Multiple factors come into play in determining effective PLT rates:

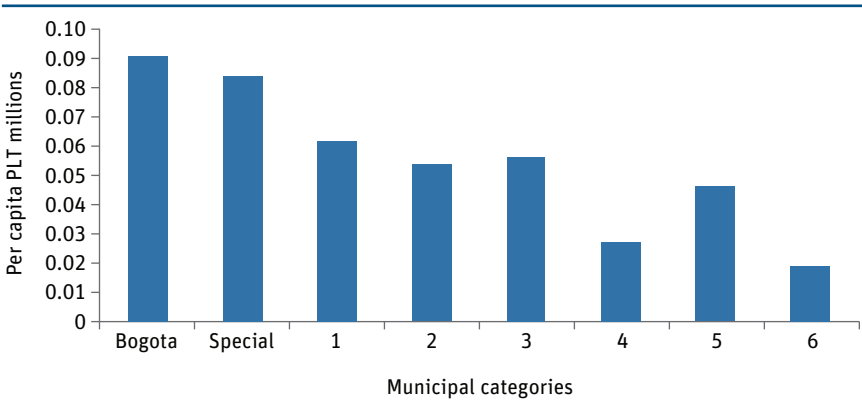
- $\text{PLT effective rate} = (\text{PLT revenue} / \text{assessed value of properties})$
- $\text{PLT revenue} = \text{nominal rates} \times \text{assessed value of properties} - \text{discounts and efficiency losses}$
- $\text{Assessed value of properties} = (\text{number of properties} \times \text{average price of properties})$

Both the number of properties and their prices determine the PLT base (assessed values of properties). Thus, the PLT base is closely related to cadastral updates. Applying the same nominal rates to an enhanced tax base would increase PLT revenue by an amount related to the current under-assessment of properties, which in turn is strongly and negatively correlated with the frequency of cadastral updates.

Figure 5.14 depicts the per capita assessed value of properties in millions of Colombian pesos. As expected, the largest and richest municipalities (Bogota and the special category) exhibit the highest per capita cadaster value. The average

¹⁰ The data on property tax collection comes from DNP, while the total assessed value of urban and rural municipal properties was obtained from IGAC and the Cadastral Office of Bogota. The data does not include the cadastres of Antioquia, Medellin, and Cali, as they have their own cadastral offices.

Figure 5.15 | Distribution of Effective PLT Rates by Municipal Category, Average 2006–2009 (in millions of 2005 pesos)



Source: Authors’ calculations based on data from IGAC and DNP.

value in the poorer municipalities of the sixth category is less than a quarter of Bogota’s average value.

The effective PLT rates also vary across regions, as shown in Figure 5.15, which provides the effective property tax rates by region. For instance, on average, the effective rate for municipalities in Valle is close to 8 per thousand, while the rate for municipalities in Caribe is barely above 3 per thousand.

To identify the factors that influence bases and effective rates for the PLT, the following model was estimated for a panel of municipalities for 2000 to 2009, with fixed effects of municipality and year:

$$y_{it} = f(\text{socioeconomic variables, decentralization variable, tax base variables, policy and institutional variables})$$

The dependent variables are: effective PLT rates; per capita PLT revenue; and total, urban, and rural per capita property value assessments. Among the independent socioeconomic variables, we tested the land Gini coefficient, poverty rate, urbanization rate, and per capita GDP. The decentralization variable is central government transfers; the tax base variables are the total, urban, and rural per capita cadastral value assessments; and the policy and institutional variables include information on the cadastral updates. Other relevant institutional variables, such as the existence of information systems to collect property taxes, are available only for 2005, and therefore are not included in the model.

The regression results for the PLT effective rates are shown in column 1 of Table 5.5. The coefficient for the land Gini is positive, although not significant.

Table 5.5 | **Determinants of PLT Rate, Tax Burden, and Property Values**

	Effective PLT rates	Per capita PLT revenue	Total per capita property and land value	Per capita urban property and land value	Per capita rural property and land value
Socioeconomic variables					
GINI of value of properties	1.748 [1.451]	0.345 [1.623]	0.441*** [4.693]	0.517*** [5.090]	1.233*** [9.662]
Unmet basic needs (poverty index)	2.372* [1.713]	0.147 [0.603]	-0.110 [-1.011]	-0.237* [-1.742]	-0.166 [-0.975]
Urban population (percentage)	3.474*** [2.929]	0.991*** [4.742]	0.865*** [9.109]		
Per capita GDP (log)	1.364*** [4.356]	0.328*** [5.953]	0.522*** [21.87]	0.431*** [14.36]	0.602*** [15.94]
Fiscal variable					
Per capita transfers (log)	0.0371 [0.375]	0.0459*** [2.629]		-0.00457 [-0.447]	0.0610*** [4.751]
Fiscal base					
Per capita value assessment of properties (log)	-2.995*** [-19.84]	0.157*** [6.043]			
Policy					
Years since last update of property cadaster (urban)	0.00271 [0.257]	-0.00496*** [-2.682]	-0.0244*** [-30.53]	-0.0684*** [-72.58]	-0.000407 [-0.343]
Years since last update of property cadaster (rural)	0.0144 [1.488]	-0.00708*** [-4.177]	-0.0307*** [-44.38]	-0.00314*** [-3.981]	-0.0433*** [-43.66]
Constant	22.59*** [14.56]	-7.033*** [-25.96]	6.297*** [67.23]	6.618*** [60.25]	6.164*** [44.63]
Observations	8,278	8,282	8,672	8,828	8,824
Municipalities	910	910	912	935	935
R-squared	0.188	0.183	0.721	0.709	0.521
F	100.1	97.18	1,334	1,278	569.9
Municipal fixed effects	YES	YES	YES	YES	YES
Year fixed effects (2000–09)	YES	YES	YES	YES	YES

Source: Authors' calculations based on data from DNP and DANE.

Notes: t-statistics in brackets; *** p<0.01, ** p<0.05, * p<0.1.

As expected, higher urbanization rates and larger per capita GDP are associated with higher PLT rates. Transfers from the central government are not related to PLT rates. The coefficient (which is not totally elastic) is close to zero and not significant. The tax base (per capita property value assessment) is negatively related to the effective PLT rate, although this may be just a “denominator” effect, since

effective rates become lower as the tax base widens. A different interpretation of the coefficient may be that, the larger the tax base, the lower the fiscal effort needed to fund the same set of public goods and services, which would be reflected in lower PLT rates. Finally, the lack of cadastral updates is not related to effective PLT rates, suggesting that, when the tax base erodes or its growth slows, local authorities do not modify tax rates to offset the shrinking tax base.

The regression for per capita PLT revenue (column 2) indicates that, as expected, the percentage of urban population and the per capita local GDP are positively and significantly related to revenue. These results may involve the many positive outcomes associated with GDP and urbanization, such as better efficiency in revenue collection and lower marginal costs of collection. The coefficient of per capita transfer from the central government has a positive and significant sign, which confirms Cadena's (2002) results. Cadena found there was no transfer-induced fiscal laziness in Colombian municipalities. In fact, it appears that local governments are willing to raise tax rates if they can provide more public goods and services by relying on cofinancing from central government transfers.

As expected, the per capita value of cadastral properties has a positive influence on PLT revenue, but with elasticity equal to 0.15, indicating that increases in the tax base would only be partially reflected in higher PLT revenue. This result is consistent with the negative relationship between the assessed values of properties and PLT effective rates (column 1). Likewise, as expected, there is a negative relationship between "years since the last cadastral update," both urban and rural, and PLT revenue. Both coefficients are highly significant but small (0.005 for urban and 0.007 for rural). Thus, if the cadaster is updated, for instance, after 10 years, PLT revenue would only increase by 12 percent.

Columns 3, 4, and 5 of Table 5.5 present the coefficients of regressions for the total, urban, and rural assessed value of properties. The socioeconomic variables have the expected sign. The concentration of properties (Gini) is strongly and positively associated with the value of land. This result may be due to stronger property rights or to less informality as land concentration increases, which would reflect the value of properties. Land Ginis tend to vary little across time in the same municipality and yet their dynamics sharply impact local land markets. Higher urbanization rates and per capita GDP are associated with higher per capita property values, which may reflect both scarcity and greater demand for land.

Finally, the "years since last update of urban and rural property cadasters" has the expected negative sign on the assessed value of property. This result holds for the total value of properties and for both urban and rural. The magnitude of the coefficients is substantial. Thus, one additional year since the last cadastral update leads to an undervaluation of properties of 7 percent in urban areas and

of 4.3 percent in rural areas. In 2009, the average number of years since the last urban cadastral update was around five in Colombian municipalities. This means that the compound loss of the PLT base due to the failure to update was more than 40 percent. These estimations for Colombia are corroborated by other studies. For instance, Bahl and Wallace (2008) found that a great obstacle to property and land tax collection is undervaluation of properties and land. Similar results regarding the effects of the cadastral update were found by Iregui, Melo, and Ramos (2004) for Colombia and by Smolka and De Cesare (2010) for Brazil.

Determinants of the Industry and Commerce Tax

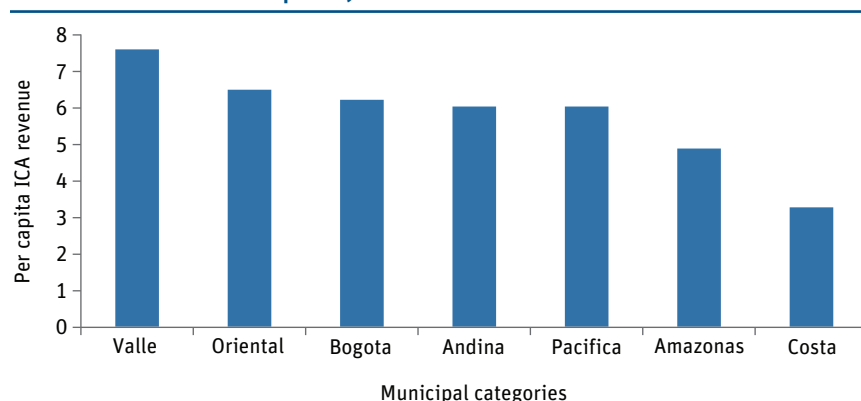
The industry and commerce tax (ICA) represents nearly 40 percent of municipal own-source tax revenue. The ICA is regulated by Law 14 of 1983, which established that such a tax must be levied on the gross revenue of all commercial, industrial, and service activities in municipal jurisdictions. Again, as in the case of the PLT, municipal councils define the rate, within the following ranges:

- 2 to 7 per thousand for industrial activities
- 2 to 10 per thousand for commercial and service activities

In many municipalities, the ICA base is under-reported, and evasion and avoidance are high.

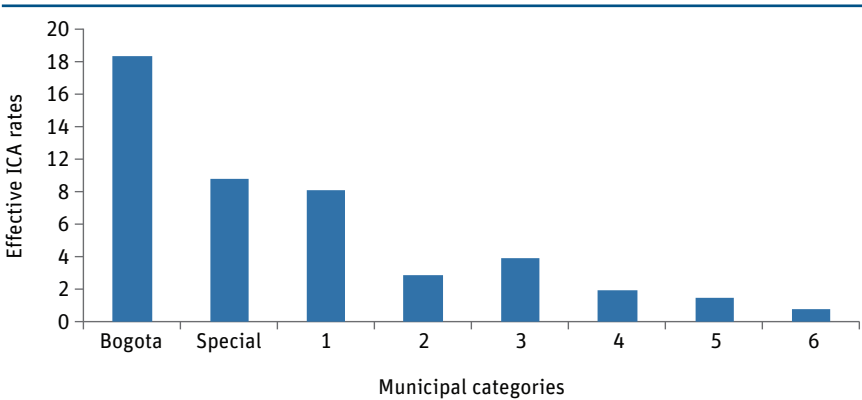
Figure 5.16 shows per capita revenue from ICA in different municipal categories. Again, as expected, they are positively and strongly correlated with the municipality's level of development.

Figure 5.16 ■ Per Capita ICA Revenue by Municipal Category (in millions of 2005 pesos)



Source: Authors' calculations based on data from DNP.

Figure 5.17 ■ **Effective ICA Rates by Municipal Category (percentage per thousand pesos)**



Source: Authors’ calculations based on DNP data.

The effective rates for the ICA—calculated as ICA revenue/municipal GDP¹¹—by municipal category are illustrated in Figure 5.17. The figure shows that Bogota, the special, and the first categories have the highest effective ICA rates, while the rate is below 10 percent per thousand pesos for all the other municipal categories. Thus, only the municipalities with relatively wealthy and large populations have been able to generate significant revenue from the ICA. Nevertheless, the lack of information on the ICA base (GDP is the only potential tax base) makes it difficult to determine whether the variance in per capita ICA revenue is due to differences in nominal rates, local information on ICA bases, or local economic activity.

A model similar to that for the PLT was estimated for the determinants of the ICA rates, the results of which are reported in Table 5.6. The estimation showed no correlation between the ICA rate and the Gini coefficient. The poverty index (unmet basic needs), as anticipated, is negatively related to the ICA rate, while the percentage of urban population is positively correlated, pointing to the greater presence of activities that comprise the ICA base in urban communities.

Similar to PLT rates, central government transfers are positively related to ICA rates. Several factors may explain this result. On one hand, transfers may incentivize fiscal effort and efficiency when local authorities perceive that the marginal cost of providing a local public good or service partially financed with transfers is lower than its marginal benefit. On the other hand, transfers may

¹¹ The methodology used to estimate municipal GDPs is provided in the appendix of Sanchez, et al. (2012).

Table 5.6 | **Determinants of the ICA Rate and Tax Revenue**

Variables	ICA rate (effective)	Per capita ICA revenue (log)
Property Gini	-0.634 [-1.491]	-0.118 [-0.392]
Unmet basic needs (poverty index)	0.863 [1.390]	1.658*** [3.761]
Urban population (percentage)	2.415*** [4.670]	1.826*** [4.973]
Per capita transfers (log)	0.111** [2.384]	0.0438 [1.321]
Per capita GDP (log)	-1.539*** [-11.13]	0.341*** [3.473]
Constant	2.691*** [5.213]	-8.442*** [-23.02]
Observations	8,741	8,741
Municipalities	935	935
R-squared	0.064	0.233
F	37.89	168.8
Municipal fixed effects	YES	YES
Year fixed effects (2000–09)	YES	YES

Source: Authors' calculations based on DNP-DANE- IGAC data.

Notes: t-statistics in brackets; *** p<0.01, ** p<0.05, * p<0.1.

raise local economic activity, which may positively impact ICA revenue and hence increase effective ICA rates.

The ICA rate is positively related to the proportion of urban of population. Urban municipalities tend to have a greater concentration of economic activities, which may facilitate tax collection through economies of scale or less evasion and avoidance. GDP per capita is negatively related to ICA rates, a result similar to the relationship between property values and PLT rates. It seems that local authorities aim to raise more revenue. Thus, the greater the tax bases the lower the tax rate.¹²

The determinants of per capita ICA revenue (in log) are also shown in Table 5.6. Again, the relationship between the Gini coefficients and the per capita ICA is not significant, while the relationship with unmet basic needs is positive.¹³ The percentage of urban population also has a positive coefficient, indicating

¹² This result is robust to any specification of the regression. Running ICA rate only on GDP per capita, the magnitude of the coefficient is similar to that in the more complete model (-1.53).

¹³ This is an unexpected result that persists even in a univariate model, in which the coefficient of the poverty index is significant at 1 percent and equal to 1.43.

that the variable is related to activities that comprise the ICA base. As expected, per capita GDP is positively associated with per capita ICA, but with low elasticity. If economic activity increases by 1 percent, ICA revenue only rises by 0.34 percent, which is consistent with the negative relationship between ICA effective rates and per capita GDP.

A Stochastic Frontier Analysis of Determinants of Municipal Fiscal Effort

We used a stochastic frontier analysis to estimate the comparative efficiency of municipalities in collecting the PLT and ICA. The independent variables are the logarithms of the per capita PLT and ICA revenues. The explanatory variables are per capita GDP and the local poverty rate with the following specification:

$$\ln(PLTCp)_{it} = \beta_0 + \beta_1 \ln(GDP)_{it} + \beta_2 \ln(UBN)_{it} + \beta_3 t + e_{it}$$

where $\ln(PLTCp)_{it}$ is the per capita GDP in the municipality at time t , $(UBN)_{it}$ is the index of unmet basic needs, t are year dummy variables and e_{it} is an error term.¹⁴ GDP per capita and unmet basic needs were chosen as the variables that would most likely reflect the potential of both taxes. As shown in Table 5.7, GDP is positively associated with the value of properties, which is the PLT tax base, and with economic activity, which is the ICA tax base. The index of unmet basic needs is negatively linked to the payment capacity of households and to the potential value of properties.

The stochastic frontier estimations for the two types of local taxes, presented in Table 5.7, indicate that per capita GDP is, as anticipated, positively linked to potential per capita revenue, while the unmet basic needs index is negatively linked.

Figure 5.18 presents the distribution of the efficiency rates for the PLT and the ICA. It is evident that efficiency is greater for the PLT than for the ICA, which is skewed to the left. This may be because rural and small municipalities do not update the ICA base, which facilitates evasion and avoidance. Although the ICA base may be updated, there is no standard updating procedure, as there is for PLT.

Table 5.8 shows efficiency estimates by region and municipal category. The technical efficiency of collecting the PLT averages around 43 percent (unweighted) for 2009, although there are significant differences between regions. The Oriental and Andina regions present the highest technical efficiency, while Amazonia and Caribe have the lowest. This confirms Iregui, et al.'s (2003) finding that, due to

¹⁴ This is an error term with two components: V_{it} , the random disturbance, and U_{it} , the non-positive non-random disturbance (see appendix for details).

Table 5.7 | Maximum Likelihood Estimator for PLT and ICA Revenues

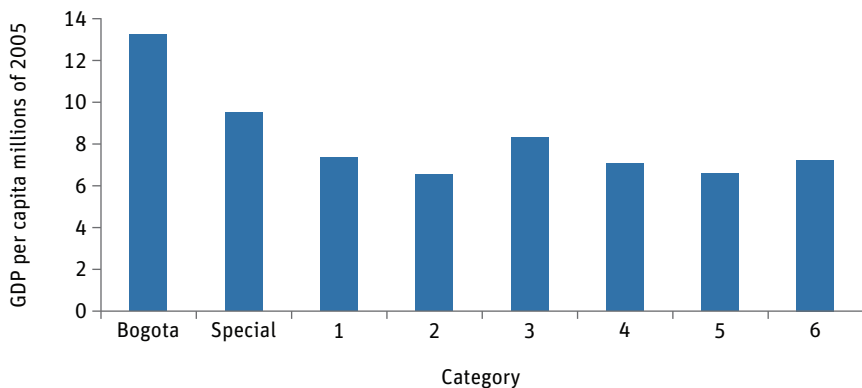
Variables	PLT	ICA
Per capita GDP	0.466*** [13.03]	0.578*** [10.64]
Unmet basic needs	-3.337*** [-23.36]	-3.138*** [-15.02]
μ	2.135*** [12.50]	3.257*** [16.91]
σ^2	-0.290*** [-6.743]	0.615*** [14.50]
Υ	1.625*** [28.18]	1.619*** [28.33]
Constant	-7.733*** [-8.276]	12.12*** [48.21]
Observations	4,234	4,257
Municipalities	1,061	1,066
Year fixed effects (2006–09)	Yes	Yes

Source: Authors' calculations based on data from DNP and DANE.

Notes: μ = population mean (mean of population values). σ^2 = variance of population values. z-statistics in brackets. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

inefficiency, Caribe showed the lowest effective PLT rate in a study of 309 municipalities between 1999 and 2002.

Table 5.8 also displays PLT efficiency calculations by municipal category. The special category, which includes Bogota and other large Colombian cities, exhibits the highest efficiency. The other categories have lower PLT efficiency

Figure 5.18 | Distribution of PLT and ICA Efficiency Rates, 2006–09

Source: Authors' calculations based on data from DNP, IGAC, and DANE.

Table 5.8 | **Municipal Efficiencies in Tax Collection by Regions and Categories, 2009 (in percent)**

PLT				ICA			
Region	Efficiency	Category	Efficiency	Region	Efficiency	Category	Efficiency
Oriental	45.5	Special	53.6	Oriental	40.9	Special	53.5
Amazonia	39.5	1	51.8	Amazonia	34.8	1	45.0
Andina	45.0	2	51.3	Andina	29.2	2	46.7
Caribe	40.0	3	49.6	Caribe	29.7	3	47.0
Pacifica	42.8	4	45.1	Pacifica	25.9	4	44.0
		5	50.8			5	44.8
		6	43.0			6	27.8
Total	42.6	Total	49.3	Total	32.1	Total	44.1

Source: Authors’ calculations.

rates, with category 6—the smallest and poorest municipalities—having the lowest average efficiency rate.

The ICA efficiency rates are also presented in Table 5.8. Special category municipalities exhibit the highest ICA efficiency, similar to the PLT. For the other municipal categories, ICA efficiency is lower than for the PLT. This pattern indicates that municipalities, particularly small ones, have substantial potential to collect more revenue from the ICA. Nevertheless, the ICA base in most municipalities is outdated, and there is no institutionalized mechanism to update the information as there is for property cadasters.

The efficiency rates in tax revenue collection are likely to be explained by structural characteristics of the municipality, such as land concentration, the degree of urbanization, the structure of production, and the area of the municipality, as well as by policy variables such as the administrative capacity index of local government, reported by the National Planning Department,¹⁵ and the lack of a cadastral update in the case of the PLT. The results of econometric estimations of the determinants of efficiency rates are presented in Table 5.9.

Table 5.9 points to a positive and significant relationship between efficiency rates and the concentration of land and the share of services in GDP. The percentage of urban population also positively influences the ICA efficiency rate, which

¹⁵ The National Planning Department has calculated this index since 2005. It is calculated as the simple average of indicators of stability of management personnel, education and training of local public servants, the existence of computers for administrative tasks, automation of general processes, and internal control.

Table 5.9 | **Determinants of Efficiency Rates, 2005–09**

Variables	PLT	ICA
Structural variables		
Gini value of properties	0.367*** [13.27]	0.234*** [7.999]
Urban population (%)	-0.0370*** [-3.086]	0.134*** [10.29]
Manufacturing GDP (%)	-0.0780*** [-4.617]	-0.0896*** [-4.871]
Services GDP (%)	0.0521*** [2.898]	0.0768*** [4.142]
Area	0.0180*** [7.468]	0.0318*** [12.29]
Decentralization and policy variables		
Per capita transfers (log)	0.0250*** [4.514]	0.00587 [0.974]
Years to last update of property cadaster (urban)	0.000167 [0.296]	
Years to last update of property cadaster (rural)	-0.00398*** [-7.829]	
Administrative capacity	0.0633*** [4.995]	0.0560*** [4.045]
Constant	0.00797 [0.0721]	-0.169* [-1.830]
Observations	2,703	2,890
R-squared	0.302	0.292
F	30.40	30.13
Departmental fixed effects	Yes	Yes
Year fixed effects (2006–09)	Yes	Yes

Source: Authors' calculations based on data from DNP and DANE.

Notes: t-statistics in brackets. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

indicates that the collection of this tax may be easier when local economic activity is more concentrated and evasion and avoidance more easily detected. The lack of an updated rural cadaster also negatively influences the efficiency rate, while the lack of an urban update variable is not significant. Local administrative capacity is positively correlated with efficiency. Thus, a more stable and educated bureaucracy, along with more automated processes and better information systems, facilitates more efficient revenue collection for both types of local taxes. This result implies that improvements in administrative capacity by local governments would significantly improve the capacity to raise revenue.

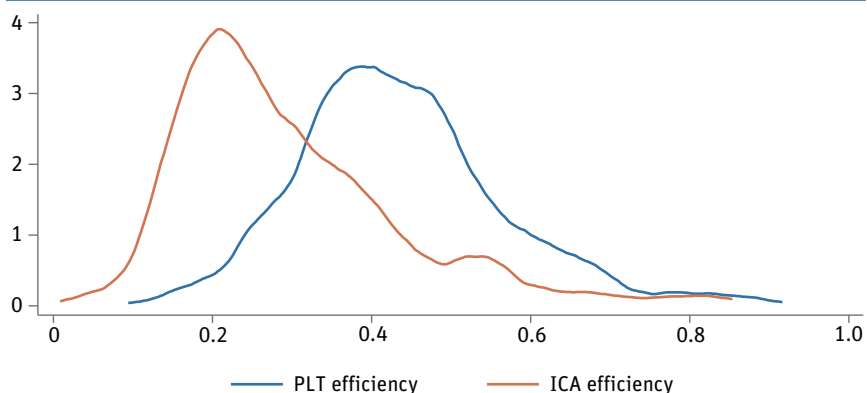
Simulations of Changes in Efficiency of Revenue Collection for PLT and ICA

The results of the analysis of efficiency in tax collection point to the need for municipalities to improve the collection of existing taxes. Two simulation exercises were undertaken to determine how the indicators of vertical imbalances would change at different values of collection efficiency:

- **Simulation 1:** The impact on vertical imbalance as a percentage of GDP of an increase in the average efficiency of revenue collection from the current value to 100 percent.
- **Simulation 2:** The impact on the vertical imbalance as a percentage of local own-source revenue of increases in the average efficiency of the municipalities in the special category, category 1, and in category 6.

Simulation 1 was carried out for 1,089 municipalities for 2009. Figure 5.19 displays the vertical imbalances of the municipalities under different efficiency rates. In 2009, the observed vertical imbalance as a percentage of GDP was 4.4 percent. If efficiency in tax collection increased from its current value of 53 percent to 75 percent, local taxes would increase from 1.4 percent to 2.0 percent of GDP and the vertical imbalance would change from negative 4.4 percent to negative 3.8 percent of GDP. If efficiency increased to 100 percent, local taxes would jump to 2.7 percent of GDP and the vertical imbalance would be negative 3.1 percent.

Figure 5.19 ■ **Scenario 1: Vertical Imbalance (as a percentage of GDP) and Efficiency Rates (percentage) in Local Tax Collection, 2009**

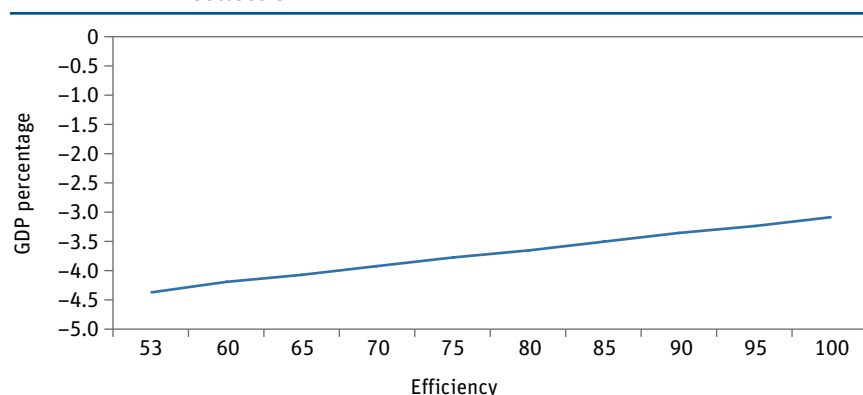


Source: Authors' calculations based on DNP, IGAC, and DANE data.

Simulation 2 was carried out for two subsets of municipal categories. The values on the left axis in Figure 5.20 depict how vertical imbalance as a percentage of own-source revenue would change if efficiency in tax collection increased for categories special and 1—the richest municipalities—from the current 55 percent to 100 percent. Of 1,089 municipalities, 22 belong in these categories, and together they collect 74 percent of all local taxes. In 2009, the vertical imbalance of these municipalities was equal to 113 percent of their own-source revenues. If efficiency increased to 75 percent, vertical imbalance would decline to 67 percent, and if it jumped to 100 percent, the vertical imbalance would decline to 30 percent. It is apparent that, with some improvement in efficiency—whether by improving administrative capacity or updating the cadaster—the largest municipalities could substantially reduce their vertical imbalances.

The blue line (values on right axis) in Figure 5.20 shows estimates of the average vertical imbalance for category 6 municipalities (992 out of a total of 1,089) at different levels of efficiency. This category includes the majority of municipalities, but as a group, they account for collection of only 9 percent of all local taxes. In 2009, the average efficiency of tax collection for these municipalities was 42 percent and the vertical imbalance was 1,400 percent of own-source revenue. If efficiency increased to 75 percent, the vertical imbalance would still be equivalent to 850 percent of own-source revenue. Even if efficiency reached 100 percent, the vertical imbalance would only decline to 680 percent. Thus, the simulations indicate that, even with significant fiscal effort, the vertical imbalances of category 6 municipalities would continue to be very high. Nevertheless,

Figure 5.20 ■ **Scenario 2: Vertical Imbalance (percentage of own-source revenue) and Efficiency Rates (percentage) in Local Tax Collection**



Source: Authors' calculations based on DNP, IGAC, and DANE data.

lowering fiscal imbalances and providing more local public goods and services using own-source revenue would certainly improve the efficiency and responsiveness of the local governments.

Conclusion and Recommendations

In this chapter, we discussed the impact of fiscal decentralization on subnational public finances in Colombia. The analysis indicates that decentralization increased transfers to subnational governments but did not promote or incentivize these governments to generate own-source revenue. The inelasticity of departmental taxes—most of which are taxes on vices—led to significant increases in the departments' vertical imbalances. In contrast, the own-source revenue of municipalities grew over time, but not enough to maintain vertical imbalances, which widened. One of the main achievements of decentralization was stabilization of subnational debt, which at the end of the 1990s was on the verge of becoming unsustainable.

We proposed two new taxes to mobilize the departments' own-source revenues. The first is a VAT surcharge of 2 percent, which would reduce the total vertical imbalance of departments by about 0.5 percent of GDP (to 3.9 percent from 4.4 percent), albeit with large variations across departments. For instance, Antioquia's vertical imbalance would decline by 0.8 percent of GDP, Huila's by 0.2 percent, and Putumayo's by 0.1 percent. Those differences reflect the proportion of GDP subject to the VAT, which tends to be higher in the more developed regions. The second is a retail sales tax of 5 percent, which could reduce the vertical imbalance by as much as 0.8 percent of GDP. The National Tax and Customs Office could collect both the VAT surcharge and the retail sales tax, but the departmental governments should bear the political cost of these taxes.

The municipalities have several options to mobilize own-source revenue. First, they could increase their efficiency in collecting the ICA and the PLT; efficiency is low across all municipalities. The average vertical imbalance could be reduced from the current 4.4 percent to 3.0 percent with improvements in efficiency, albeit with significant variation between municipalities. The most important steps that could be taken to raise local efficiency indicators are as follows:

- Strengthen the administrative capacity to collect taxes by investing in information systems, which would allow municipalities to monitor economic activity—the ICA tax base—within their borders and facilitate payment of the ICA and the PLT by taxpayers.
- Update the property cadaster more frequently.

- Create or update the ICA tax base through censuses of local economic activity.

The central government must design better incentives to stimulate local revenue efforts, while local authorities work to improve taxpayer compliance by, among other things, convincing citizens that taxes will be used to provide public goods and services with transparency and accountability. Although central government transfers are positively related to fiscal effort, the elasticity of local taxes to these transfers is relatively low—around 0.05—which means that, although local governments may complement transfers with local taxes to provide more local goods, local revenue may be insufficient to enhance responsiveness and efficiency in providing public goods and services.

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Fiscal Surf and Turf: Peru's Efficiency and Equity in Revenue Mobilization

6

THE CURRENT FISCAL DECENTRALIZATION PROCESS IN PERU BEGAN IN 2002 WITH AN AMENDMENT TO THE CONSTITUTION AND LEGISLATIVE DECREE NO. 955, THE CURRENT Fiscal Decentralization Law.¹ Since then, decentralization reform has been at the center of national and subnational political agendas. After more than 10 years, the process is, in some respects, relatively advanced: the legal framework covers most aspects of the system of intergovernmental fiscal relations, and, in 2011, each group of subnational governments (intermediate and local) was responsible for more than 18 percent of total public expenditures.

There are still important aspects of the process, however, that remain problematic and will require additional reforms. In this chapter, we focus on the 25 regions and the province of Lima. The regions/departments include 196 provinces and the provinces have 1,850 districts/municipalities. Few subnational governments are collecting sizeable amounts of own-source revenue, likely due to the nature of current revenue assignments, the regional distribution of tax bases, lack of administrative and technical capacity, and the economic and political costs of collections. Most subnational governments depend predominantly on intergovernmental transfers. Moreover, the transfer system does not correct the large differences in fiscal capacity among subnational governments, and, in fact, tends to aggravate them.

In this chapter, we attempt to identify the main factors that contribute to the poor own-source revenue performance of subnational governments in Peru and explore policy reforms to improve revenue mobilization. Because the institutional

¹ This chapter is an abridged and edited version of Canavire Bacarreza, Martínez-Vázquez, and Sepúlveda (2012).

conditions of the government units at the local (municipal) and intermediate (regional) levels are diverse, we use different analytical approaches and propose different strategies to improve revenue performance at these two levels of government. At the municipal level, with few exceptions, current tax assignments roughly follow best international practices; thus the analysis focuses on possible reforms to improve efficiency in tax collections. On the other hand, there are still no tax instruments assigned to regional governments. Therefore, we explore options to provide the regions with sources of revenue and create fiscal autonomy and accountability.

Revenue mobilization and unequal distribution of fiscal resources related to sharing revenue from extractive resources are closely interconnected in Peru and, thus, should be addressed together. In addition to the obvious costs associated with cohesiveness of society on equity grounds, the current extent of interjurisdictional inequalities in Peru also imposes efficiency costs that have not been sufficiently stressed in prior analyses of the Peruvian decentralization process. This is perhaps the most important message of this chapter: improving revenue mobilization in Peru requires a holistic approach in which equity and efficiency are addressed simultaneously and subnational governments are provided with both the ability and the incentives to maximize collection of own-source revenue.

For this purpose, we use alternative methods to estimate the fiscal capacity or revenue potential of subnational governments, and we propose incorporating one of these measures into the distribution formula of the current equalization transfer programs. The main goal of this component of our proposed reforms is to improve the equalizing power of these programs by excluding, in practice, those subnational governments that already receive significant revenue from extractive industries. This would seem to be politically more feasible than changing the current distribution formula for revenue from extractive industries.

In the next section, we describe the current revenue system for regional and municipal governments. We then present an econometric analysis of the determinants of revenue collection at the municipal level, followed by an examination of the equalization transfer mechanism and other transfers to municipal governments. Next, we explore alternative methods for measuring municipal revenue potential and efforts that could be incorporated into the distribution formula of the equalization transfer program. We review the pros and cons of alternative potential own-source revenues for the regional governments and discuss possible steps to strengthen own-source revenue at the municipal level. Finally, we offer some brief conclusions in light of the political economy constraints on subnational revenue reforms in Peru.

The Current Subnational Revenue System

Main Features and Trends

Since the beginning of the current decentralization process in Peru, subnational governments have accounted for a significant share of the total public budget. During 2002, subnational expenditures represented 39.5 percent of total general government spending. In 2008, as well as in more recent years, this share has been slightly lower, although remaining quite high at around 36.6 percent. Despite the decline, decentralization of expenditures has deepened, as, during the 2000s, a growing number of responsibilities have been assigned to subnational governments.² In contrast, decentralizing revenue sources continues to be insignificant. In 2002, the share of subnational spending financed through own-source revenue was only 11 percent; by 2008, it had risen to only 12.3 percent, with municipal governments collecting most of this revenue (Table 6.1).

Such a low share of own-source revenue suggests that subnational governments rely heavily on transfers from the central government. Some of these transfers (ordinary resources) are not reported in official statistics as subnational revenue but finance most of the de-concentrated regional expenditures on education, health, social protection, and pensions, among other spending.³ Another major type of transfer is sharing revenue from extractive industries (the canon, sobrecanon, and royalties).⁴ These revenues, which are distributed on an origin basis, increased dramatically between 2004 and 2008—to the equivalent of 26.5 percent of total subnational expenditures and more than twice subnational

² USAID/Perú ProDescentralización (2010) reviews the process of transferring functions to subnational governments.

³ The term “de-concentration” is used in the literature to refer to those assignments where subnational authorities have very limited or no decision-making autonomy, while the concept of decentralization implicitly designates a significant degree of autonomy. The amount of ordinary resources is determined annually by the National Directorate of Public Accounts on a historical basis, and the use of these funds is largely subject to central government guidelines. An analysis of de-concentrated expenditures at the regional level in Peru is provided in World Bank (2009).

⁴ According to Law 27506:

- The canon is the share that municipal and regional governments receive of rents and revenue the State generates from natural resources.
- The sobrecanon is additional sharing of oil revenue specific to the Loreto, Ucayali, Piura, and Tumbes regions.
- Royalties are generated primarily from the mining sector. Law 28258 defines mining royalties as a payment to the State for the right to exploit mining resources and describes calculations and distribution criteria.

Table 6.1 Composition of Revenues by Level of Government, 2002 and 2008 (millions of nuevos soles and as percentage of total expenditures by level of government)

	2002				2008					
	Central government		Subnational governments		Central government		Regional governments		Municipal governments	
	S/. mm ^a	%	S/. mm	%	S/. mm	%	S/. mm	%	S/. mm	%
Own-source revenue	24,939	116.6	1,530	11.0	60,438	136.0	459	3.7	2,688	20.4
Taxes and contributions	22,429	104.9	731	5.2	51,470	115.8	14	0.1	1,406	10.7
Fees and charges	965	4.5	966	6.9	3,922	8.8	222	1.8	1,583	12.0
Capital revenue	1,350	6.3	41	0.3	325	0.7	14	0.1	25	0.2
Transfers ^b	-240	-1.1	1,436	10.3	-827	-1.9	2,365	19.0	8,629	65.4
Total revenue	26,414	123.5	3,421	24.6	64,409	144.9	5,574	44.7	16,633	126.1
Total expenditures	21,383	100.0	13,933	100.0	44,456	100.0	12,479	100.0	13,194	100.0
Balance	5,032	23.5	-10,512	-75.4	19,953	44.9	-6,905	-55.3	3,439	26.1

Source: Ministry of Economy and Finances, and National Directorate of Public Accounts.

^a S/. mm = millions of nuevos soles.

^b Excluding transfers to finance de-concentrated spending (so called ordinary resources).

own-source revenue collections—reflecting the escalating trend of international prices for Peruvian exports of natural resources.

The heavy (nearly 90 percent⁵) fiscal dependence of subnational governments on transfers weakens their accountability to their electorates, and thus their incentives to be efficient. It can also soften budget constraint (Ahmad and Brosio, 2008; Ahmad and García-Escribano, 2006; Rodden, Eskeland, and Litvack, 2003). Subnational autonomy is further undermined by the fact that most of the transfers are conditional, with the stipulation that they be used for centrally determined expenditures.

In addition to large vertical imbalances,⁶ the Peruvian intergovernmental transfers system is characterized by substantial horizontal inequity. The principal

⁵ Specifically, in 2008, transfer dependence for regional governments was over 96 percent and for municipal governments was nearly 80 percent.

⁶ In its simplest form, the subnational vertical imbalance can be defined as the ratio of the difference between own-source revenues and total expenditures to total expenditures. Thus, in the absence of significant borrowing, the vertical imbalance coincides with transfer dependence.

Table 6.2 | Distribution of Revenues Based on Law of Canon

Share	Beneficiaries	Distribution criteria
10%	District municipalities within which the natural resources are exploited	Equal share
25%	Municipalities of the province within which the natural resources are exploited	Population and unmet basic needs
40%	Municipalities of the region within which the natural resources are exploited	Population and unmet basic needs
25%	80% to regional government and 20% to the universities in the region	

Source: Law 27506 (Law of Canon).

Note: The criteria are applicable to the revenues collected from exploiting mining, gas, hydro-energetic, fishing, and forest resources (excludes oil canon).

source of such inequity is the fact that revenues from extractive industries are distributed among subnational governments on an origin basis. Law 27506 (Law of Canon) establishes both the total share of subnational governments in the revenues collected through the income tax on extractive industries (which is generally 50 percent) and the formula for its distribution among the subnational governments where the resources are extracted. Table 6.2 summarizes this distribution procedure.

Neither the academic literature nor international experience provide any clear guidelines regarding how tax revenues from extractive industries should be allocated, both between the central and subnational governments, and among the territories where natural resources are exploited (Bahl and Cyan, 2010; Searle, 2007). In general, more than a matter of economic efficiency, assigning property rights to natural resources (and their rents) is a problem that each country must solve in accordance with its specific political, cultural, and historical conditions. However, it is important to understand and address the economic consequences of the assignments of each country.

Distributing revenues on an origin basis generally creates horizontal imbalances because the location of natural resources cannot necessarily be correlated with the relative expenditure needs or fiscal capacities of the beneficiary governments. Even if the distribution criteria are defined according to common determinants of expenditure needs, such as population and unmet basic needs (Bahl and Cyan, 2010; Searle, 2007), as is the case in Peru, the problem of horizontal imbalances remains between beneficiaries and non-beneficiaries. Besides the obvious problem of inequalities, horizontal imbalances can also create inefficiencies because they unevenly alter the marginal cost of funds faced by different government units (Martínez-Vázquez and Sepúlveda, 2012). Moreover, both inequalities and inefficiencies can be expected to increase with the amount of

transfers distributed. This is a critical issue in Peru, where transfers from extractive industries represent around a quarter of total subnational expenditures, and where there are currently no effective compensating mechanisms to reduce the distortions imposed by the system.

Revenue Structure at the Regional Level

The current situation with revenue assignments and mobilization is quite different for regional and municipal governments. Even though regional governments have been given additional responsibilities, they have not yet been assigned any source of tax revenue, and thus their revenue autonomy is negligible and includes only some charges and fees. Table 6.3 presents the composition of regional revenues in 2004, 2006, and 2008. Historically, transfers have been the main revenue source for regional governments, remaining above 95 percent of total revenue in 2004, 2006, and 2008. Transfers from ordinary resources represent more than two-thirds of total regional revenue. The distribution of such resources among regional

Table 6.3 | **Composition of Regional Revenues, 2004, 2006, and 2008**
(millions of nuevos soles and percentage of current and capital revenues)

	2004	%	2006	%	2008	%
Taxes and contributions	2	0.0	13	0.1	13	0.1
Charges and fees	160	2.2	199	1.9	217	1.6
Other	141	1.9	209	2.0	402	3.0
Total own-source revenue	303	4.1	421	4.1	632	4.7
Ordinary resources	6,027	81.3	7,857	76.1	9,094	67.6
Canon, sobrecanon, and royalties	350	4.7	956	9.3	1,669	12.4
<i>Mining canon</i>	107	1.4	441	4.3	970	7.2
<i>Oil canon and sobrecanon</i>	189	2.6	281	2.7	365	2.7
<i>Gas canon</i>	18	0.2	99	1.0	188	1.4
<i>Other canon and royalties</i>	36	0.5	136	1.3	146	1.1
Custom duties	78	1.1	112	1.1	153	1.1
FONCOR*	360	4.9	430	4.2	674	5.0
Others	281	3.8	527	5.1	1,213	9.0
Total transfers	7,096	95.8	9,882	95.7	12,803	95.2
Current revenue	7,399	99.9	10,303	99.8	13,435	99.9
Capital revenue	11	0.1	25	0.2	14	0.1
Current and capital revenues	7,410	100.0	10,328	100.0	13,449	100.0

Sources: Ministry of Economy and Finances, and National Directorate of Public Accounts.

* FONCOR = *Fondo de Compensación Regional*, which is a regional compensation fund.

Table 6.4 | Dispersion of Regional Revenues from Extractive Industries and from FONCOR, 2004 and 2008 (nuevos soles per capita)

	2004		2008	
	Extractive industries	FONCOR	Extractive industries	FONCOR
Minimum	0.0	0.4	0.0	1.4
Maximum	118.4	65.4	647.3	134.3
(region)	(Loreto)	(Moquegua)	(Tacna)	(Aurimac)
Simple average	21.3	24.5	101.0	43.1
Weighted average	13.3	13.7	60.0	24.2
Standard deviation	32.3	18.0	153.5	39.5
Coefficient of variation*	2.4	1.3	2.6	1.6
(Max–Min)/average	8.9	4.7	10.8	5.5
Correlation	–0.02		–0.28	

Source: Authors' calculations based on data from the Ministry of Economy and Finances.

*The coefficient of variation is equal to the standard deviation divided by the weighted average.

governments is largely based on historical costs of regional expenditure functions. Regional governments still enjoy little autonomy in utilizing such resources.

In 2008, the second most important source of transfers was from extractive industries (canon, sobrecanon, and royalties), which represented more than 12 percent of total regional revenue.⁷ The FONCOR (Fondo de Compensación Regional), the equalization transfer program at the regional level, is also a significant source of revenue, but both its relative weight in regional revenues and its equalizing capacity declined over the 2000s, as a result of escalating oil and mining prices. In 2004, the amount of revenue distributed from both sources was roughly the same; by 2008, transfers from the FONCOR amounted to less than half of the revenue from the canon, sobrecanon, and royalties. On a per capita basis, even in 2004, the maximum transfer from extractive industries (to the region of Loreto) was almost double the maximum amount provided by the FONCOR (to the region of Moquegua). These differences had further increased by 2008. Tacna, a region rich in mining resources, received four times more revenue from the canon than Aurimac, the region that most benefited from the FONCOR (Table 6.4).

The FONCOR is distributed according to population, a measure of unmet basic needs, location (population close to the border), and effectiveness in executing the investment budget. Even though these transfers are meant to be used only for capital investment and related expenses, the potential fungibility

⁷ Taxes and contributions consist exclusively of import duties collected by Tacna, a region rich in mining resources.

of money within budgets is likely to allow, at least in principle, a fairly effective equalizing effect. However, the greater magnitude and dispersion of revenue from extractive industries, compared to the FONCOR, suggest that the equalizing potential of the latter may be significantly limited. In addition, provided the FONCOR considers factors that are related to expenditure needs, the fact that the correlation between the two revenue sources was close to zero in 2004 implies that revenues from extractive industries are independent of expenditure needs, while the greater negative correlation observed in 2008 suggests that they have, on the face of it, moved in opposite directions.

In 2009, through Ministerial Resolution No. 322-2009-EF-15, the General Directorate of Economic and Social Affairs introduced a new method to compute FONCOR transfers that should significantly improve their equalizing power. Under the new method, the same factors are used to compute the capital expenditure needs of each regional government. Then the net capital expenditure needs are obtained by subtracting from this amount the revenues received from canon, sobrecanon, royalties, and customs duties. Finally, the transfer is distributed among regional governments in proportion to the net capital expenditure needs. As a result, governments for which the revenues from extractive industries exceed their capital expenditure needs receive no transfers from the FONCOR, and the available resources can be concentrated exclusively on the regions where there is insufficient funding for capital expenditures.

The Directorate designed this reform to be implemented gradually over a period of three years. It provides a mechanism to reduce the distortions imposed by the revenues from extractive industries and enhance equity and efficiency. Indeed, what this reform has done is simply to introduce into the equalization transfer formula an adjustment for the revenues obtained from natural resources, which is one of the most important components of subnational fiscal capacity in Peru.

Revenue Structure at the Municipal Level

Decree Law 776 defines the revenue sources for municipal governments in Peru. In particular, it establishes taxes on property as the main tax revenue source for both provincial and district municipalities. Provinces are assigned the tax on vehicle property, and districts are assigned the tax on land and buildings and the tax on property transfers. Table 6.5 summarizes the composition of current revenues at the municipal level in Peru. Even though municipalities enjoy a certain degree of tax autonomy that is absent at the regional level, the revenues collected from these sources are not especially significant. Historically, total own-source tax collections have been lower than the sum of charges and fees, which include

Table 6.5 | **Composition of Current Revenues at the Municipal Level in 2004, 2006, and 2008 (millions of nuevos soles and percentage of current revenue)**

	2004	%	2006	%	2008	%
Vehicle property	61	1.1	57	0.8	95	0.7
Property (land and buildings)	407	7.1	462	6.2	615	4.7
Property transfer	64	1.1	108	1.4	421	3.2
Others	106	1.8	93	1.2	166	1.3
Total taxes	638	11.1	720	9.6	1,296	9.9
Charges and fees	1,032	18.0	1,010	13.5	1,336	10.2
Others	409	7.1	396	5.3	627	4.8
Other own-source revenues	1,441	25.1	1,407	18.8	1,963	15.0
Canon, sobre canon, and royalties	705	12.3	2,428	32.4	5,145	39.4
<i>Mining canon</i>	324	5.6	1,248	16.6	3,341	25.6
<i>Mining royalties</i>	0	0.0	299	4.0	401	3.1
<i>Oil canon and sobre canon</i>	220	3.8	381	5.1	579	4.4
<i>Gas canon</i>	54	0.9	297	4.0	546	4.2
<i>Other canon and royalties</i>	107	1.9	203	2.7	277	2.1
FONCOMUN	1,729	30.1	2,323	31.0	3,257	24.9
Others	1,236	21.5	618	8.2	1,411	10.8
Total transfers	3,670	63.8	5,369	71.6	9,813	75.1
Current revenue	5,749	100.0	7,495	100.0	13,073	100.0

Sources: Ministry of Economy and Finances, and National Directorate of Public Accounts.

street cleaning, road tolls, park maintenance, public safety services, and construction permits.

High dependency on intergovernmental transfers is also an important concern at the municipal level. Overall, transfers represented 75 percent of municipal budgets in 2008, with the transfer revenues from extractive industries and the FONCOMUN (*Fondo de Compensación Municipal*, which is the municipal compensation transfer fund) being the two most important sources, at around 40 percent and 25 percent of subnational revenue, respectively.

Decree Law 776 also establishes the tax rates to be applied in each case and the sharing of collections between provinces and districts. A summary of these regulations is presented in Table 6.6. Municipal governments are given no autonomy in either defining their tax bases or setting the rates for the taxes assigned to them. All of these decisions are determined centrally. Therefore, the municipal choice about how much to collect is confined to the realm of tax administration and enforcement efforts.

Table 6.6 | Main Characteristics of Municipal Tax Revenue Assignments

Revenue shares				
District administration	Districts	Provinces	Tax rates	
Land and buildings	100% (5% for cadaster maintenance)	0%	< 15 UIT*: 15–60 UIT: > 60 UIT:	0.2% 0.6% 1.0%
Property transfers	50%	50% (to Municipal Investment Fund)	3% (first 3 UIT exempted)	
Games (pinball, bingo, etc.)	100%	0%	10%	
Public shows	100%	0%	Bullfighting: Horse racing: Others:	5% 10% 15%
Provincial administration				
Vehicle property	0%	100%	1% (minimum: 1.5% UIT)	
Bets	40%	60%	20% (horse racing: 12%)	
Games (lotteries)	0%	100%	10%	

Source: Gómez, Martínez-Vázquez, and Sepúlveda (2010), based on Decree Law 677.
 *UIT = Unidad Impositiva Tributaria or Tributary Tax Unit. The UIT is a legal monetary unit whose value has been set to 3,600 nuevos soles since 2010 (US\$1,283 at December 31, 2010).

The lack of autonomy in defining municipal tax policy is not, however, the only important obstacle to municipal revenue mobilization in Peru. For instance, tax morale and the attitudes of government officials may play a role in limiting the collection of taxes. According to Alfaro and Rühling (2007), a substantial share of Peru’s population still does not appear to fully understand, nor does it accept, its supporting role in financing the municipal public goods and services they receive, while some local authorities accept, rather passively, the fundamentally voluntary contributions of taxpayers. Moreover, many municipalities, especially in rural areas, do not have the administrative and technical capacity to collect significant amounts of tax revenue. For example, a significant number of municipal governments do not have a complete cadaster of properties, and the existing cadasters are not regularly updated (Alfaro and Rühling, 2007).

All these factors contribute to poor tax revenue mobilization by Peruvian municipalities, which perform far below international standards. The productivity of the property tax in Peru—0.17 percent of GDP—is low even when compared to similar countries in Latin America, which on average collect almost three times as much (Table 6.7). This low productivity might be explained in part by the tax rates. De Cesare and Lazo Marín (2008) provide information about property tax rates in a sample of eight Latin American countries. Of this group, only Guatemala and Costa Rica have tax rates as low as Peru, while the rest impose either higher

Table 6.7 | **Property Tax Collections in Selected Regions and Countries, 1990–2007 (as a percentage of GDP)**

	International averages			Selected Latin American countries	
	1990–99	2000–04		1990–99	2000–07
All countries	0.75 (59)	1.04 (65)	Argentina	0.63	0.53
OECD countries	1.44 (16)	2.12 (18)	Bolivia	N/A	0.65
Transition countries	0.54 (20)	0.68 (18)	Brazil	0.32	0.43
Developing countries	0.42 (23)	0.60 (29)	Chile	0.60	0.66
Latin America	0.36 (8)	0.37 (10)	Colombia	0.36	0.50
			Ecuador	0.12	0.13
			Guatemala	0.08	0.14
			Mexico	0.18	0.18
			Paraguay	0.36	0.39
			Peru	—	0.17
			Uruguay	0.61	0.71

Sources: Bahl, Martínez-Vázquez, and Youngman (2008) and ECLAC (2009).

Note: N/A = data not available. The numbers in parentheses represent the number of countries in each sample average.

minimum (or flat) rates (Chile, Nicaragua, Paraguay, and Dominican Republic) or higher maximum rates (Bolivia).

Even though revenue collection performance is, in general, poor among municipal governments in Peru, there are also promising experiences whereby administrative reforms have led to substantial increases in municipal revenue collection. Possibly, the most notable example is the implementation of semi-autonomous offices in nine provincial municipalities (Cajamarca, Chiclayo, Huamanga, Huancayo, Ica, Lima, Piura, Tarapoto, and Trujillo). Tax Administration Service offices were created by these governments exclusively for the purpose of administering and collecting tax and non-tax revenues within their jurisdictions. Thus far, in terms of administrative efficiency and taxpayer compliance, results have been very positive (Box 6.1). There are, however, reasons to believe that this is not a solution that would work for all municipalities, as only a few provincial (or relatively large) municipalities have implemented the system. On the plus side, there might be useful lessons for smaller municipalities that could be extracted from the experience.

Overall, we conclude that, even though municipal governments in Peru are assigned taxing powers that are absent at the regional level, with few but important exceptions, they have made limited use of these powers. Thus, the intergovernmental system of finance in Peru would seem to be at an early stage of the

Box 6.1 Tax Administration Services in Peru

Since 1996, some Peruvian municipalities have created semi-autonomous Tax Administration Services. The main objective of these offices is to increase collection of own-source revenues. As noted by von Haldenwang, Büsing, Földi, et al. (2009), establishing the initial offices was a response to the centralization imposed by the Fujimori government (1990–2000). Creating Tax Administration Services continues in the context of a still slow fiscal decentralization process. While municipal authorities are responsible for regulating and controlling its work, each office is autonomous in financial and human resource management and is financed by a share of the taxes and fees it collects.

This self-financing structure has led to efficient revenue collection because the more revenue each office collects, the more resources they have. Tax Administration Services have provided some clear benefits for Peruvian municipalities that—like Lima, Trujillo, and Piura—adopted this approach at the beginning. For example, from 1998 to 2007, municipalities that adopted Tax Administration Services on average increased their own-source revenue by 80.9 percent, or 9.0 percent annually. By comparison, over the same period, municipalities that did not adopt Tax Administration Services on average saw revenue increase by 61.2 percent, or 6.8 percent annually.

von Haldenwang et al. (2009) reported that, according to a survey, trust in the tax administration in Lima and other municipalities where Tax Administration Services were adopted had increased. This could be attributed to less political intervention in administrative processes, better client focus, improved public relations, and less corruption. Moreover, the offices promote innovation in internal processes, the use of modern technologies, human resource development, financial management, and collaboration across tax administrations. Challenges remain, however. According to the above-mentioned survey, public perceptions remain negative regarding the correlation between revenue collection and public services and the “sensitivity” of tax administrations to taxpayers’ needs and concerns.

revenue decentralization process, largely deprived of this important mechanism for increasing accountability and efficiency among municipal officials. The next section attempts to explain the performance of municipal governments.

Own-Source Revenue Collection in Municipal Governments

Determinants of Differences in Performance

Even though the overall revenue performance of municipal governments is poor, there are significant exceptions; therefore, it is important to identify possible

determinants of differences in performance and take them into account when designing proposals for reforms. A starting point could be the incentives for mobilizing revenue provided to municipalities by the current institutional scheme—particularly intergovernmental transfers.

There is a broad base of empirical literature that analyzes the effect of intergovernmental transfers on subnational own-source revenue collection and tax effort; however, findings are somewhat inconclusive (see Chapter 1). In line with findings for other countries, the results for Peru are ambiguous. Though Rühling (2005) argues that intergovernmental transfers did not reduce property tax collections from 2000 to 2003, he does not provide statistical evidence. Other studies that use econometric analyses find a positive impact of transfers on revenue collections. Aguilar and Morales (2005) find positive but differentiated effects by department, while Melgarejo and Rabanal (2006) find a positive effect that seems to vanish when the revenues from canon and sobrecanon are included in total transfers. Contrary to these findings, Alvarado et al. (2003) and Aragón and Gayoso (2005) argue that the total amount of transfers reduces own-source revenue collections in Peru. In a more recent study, Sepúlveda and Martínez-Vázquez (2011) found some evidence of substitution between the funds received from FONCOMUN and property tax collections in Peru.⁸

There are other factors that may affect the revenue performance of subnational governments. In particular, administrative capacity may be an important constraint even for willing municipal governments. The real estate property tax, currently administered by districts, is generally difficult to administer properly because it requires both a considerable degree of sophistication and qualified personnel in its different phases of cadaster building, property assessment, billing, and enforcement. On the other hand, the vehicle tax, currently administered by provinces, is generally easier to collect and requires less administrative capability. This may suggest that a better match between administrative requirements and capabilities could be obtained by switching the vehicle tax to the district level and the property tax to the provincial level.⁹

Given the very different sizes and administrative capacities of the municipalities in Peru, performance in revenue collection can be expected to vary

⁸ The same authors also found evidence of the substitution effect for Brazil and for a panel of Latin American countries.

⁹ A simulation of the effects of switching the assignments of the two taxes between provinces and districts is available in Appendix 2 of Canavire Bacarreza, Martínez-Vázquez, and Sepúlveda (2012). According to their simulation, this measure would result in a substantial loss of fiscal autonomy at the district level and an intensification of current disparities at the municipal level.

substantially. In addition, we should expect that the revenue performance of a subnational government would be affected by its level of economic development and, of course, the size of its tax base. For example, urban municipalities with some concentration of industrial and service activity generally have easier tax bases on which to raise revenue. Finally, differences in political economy factors may also affect revenue performance. For all subnational governments, enforcement efforts are likely to decline prior to an election. Revenue performance may also be lower in subnational governments with higher levels of local elites avoiding paying taxes.

New Empirical Analysis of Determinants

A new empirical analysis of the determinants of municipal revenue collection performance in Peru uses national public accounts data for 192 provinces and 1,630 districts for 2006 through 2008. Following the existing literature on this issue, total per capita own-source revenue and total per capita tax revenue are used as the dependent variables. To test the effect of transfers on revenue mobilization, we use alternative measures of transfers: total transfers; and revenues from extractive industries and the FONCOMUN separately. Regressions are run for both the aggregate municipal level, and districts and provinces separately.

The following variables are used to control for municipal tax bases: the distribution of population by age cohorts, poverty, and area; the poverty headcount index; illiteracy; population; GDP per capita;¹⁰ population working in agriculture; the employment ratio; and dummies for the region to capture asymmetries among regions. Year and regional dummies are used to capture the effects of the escalation of revenue from extractive industries.¹¹

The proportion of skilled workers to total municipal government workers is used as a proxy for administrative capacity. The results for this variable indicate that municipalities with better human capital tend to perform worse in terms of revenue collection; however, the estimated coefficients are not statistically significant.¹² In line with the results of Aguilar and Morales (2005), the effects differ

¹⁰ Given the lack of official measures of municipal GDP, we use estimates developed by Llemppén, Morón, and Seminario (2010).

¹¹ See Canavire Bacarreza, Martínez-Vázquez, and Sepúlveda (2012) for a discussion of technical issues in the empirical estimation.

¹² We recognize that the quality of the information used to construct this and other institutional capacity variables is poor; therefore, the results should be interpreted with caution since the poor quality of the data is likely to affect the consistency of the estimated coefficients.

across regions. Highly urbanized regions, such as Lima and Callao, show significant positive results, while smaller regions (less urbanized), such as Piura and Pasco, show insignificant negative effects.

To some extent, the control variables behave as expected. Municipal governments with higher poverty levels (measured by the headcount index) show lower per capita revenue collection. Per capita GDP has a positive (yet sometimes insignificant) effect, indicating that richer municipal governments tend to be able to collect more revenue per capita. The degree of urbanization (proxied by the proportion of non-agricultural workers in total) has a strongly positive effect on municipal revenue, as does population, indicating that economies of scale may exist for collections. Because of the large number of equations and estimated coefficients, Table 6.8 displays only the results of the effects of per capita transfers on own-source revenues and own-tax revenues per capita for the preferred specifications.¹³

For the most part, the results in Table 6.8 show a positive relationship between transfers and total own-source revenue collections, with the only exception, although inconsistent, being FONCOMUN transfers. The results are not as strong for own-tax revenues as for total own-source revenues. A small positive effect of total transfers on own-tax revenue collection is found in all specifications, and a small negative, but not significant, effect is seen in the case of transfers from extractive industries.

In summary, transfers from extractive industries appear to have a positive effect on total revenue and its non-tax component. The causes of this relationship are not evident. It is possible that there is greater capacity to provide public services and charge for them based on greater demand for these services and/or greater ability to pay on the part of the population. In contrast, these transfers appear to have little or no effect on municipal tax collections. Finally, the effect of the FONCOMUN on revenue collections is negative and statistically significant, particularly in the case of tax revenues and under the Tobit estimations. This means that the substitution effect of this source of revenue is greater than the positive income effects, and that, overall, the equalization transfers may be discouraging municipal tax collection.

Thus, on the whole, the empirical evidence regarding the impact of transfers on the generally poor revenue performance of Peru's municipalities continues to be mixed. Future research would certainly benefit from using better proxies for administrative capacity and other variables such as institutional development, tax morale, and corruption.

¹³ Each cell in the table comes from a single and independent estimation.

Table 6.8 | Selected Regression Results for the Effect of Transfers on Revenue Mobilization

	Random effects estimations			Tobit estimations		
	(1) Total	(2) District	(3) Provincial	(4) Total	(5) District	(6) Provincial
Total own-source revenue per capita						
Total transfers	0.0326*** (0.0059)	0.0330*** (0.0071)	0.0320*** (0.0035)	0.0325*** (0.0013)	0.0328*** (0.0014)	0.0315*** (0.0032)
Extractive industries	0.0327*** (0.0060)	0.0331*** (0.0072)	0.0321*** (0.0035)	0.0326*** (0.0013)	0.0331*** (0.0014)	0.0317*** (0.0032)
FONCOMUN	-0.017 (0.0330)	-0.0562 (0.0354)	0.1725 (0.1023)	-0.022* (0.0123)	-0.0606** (0.0206)	0.1728** (0.0655)
Total tax revenue per capita						
Total transfers	0.0003 (0.0008)	0.0002 (0.0010)	0.0016* (0.0008)	0.0001 (0.0001)	0.0001* 0.0000	0.0015 (0.0016)
Extractive industries	-0.0004 (0.0005)	-0.0006 (0.0005)	0.0015* (0.0007)	-0.0003 (0.0007)	-0.0004 (0.0008)	0.0014 (0.0016)
FONCOMUN	0.0165 (0.0256)	0.0039 (0.0296)	0.0045 (0.0240)	-0.0446*** (0.0107)	-0.0649*** (0.0121)	-0.0108** (0.0054)
Total non-tax revenue per capita						
Total transfers	0.0336*** (0.0064)	0.0350*** (0.0076)	0.0305*** (0.0033)	0.0335*** (0.0011)	0.0347*** (0.0012)	0.0300*** (0.0022)
Extractive industries	0.0340*** (0.0064)	0.0356*** (0.0075)	0.0308*** (0.0032)	0.0340*** (0.0011)	0.0354*** (0.0012)	0.0303*** (0.0023)
FONCOMUN	-0.0034 (0.0283)	-0.0291 (0.0309)	0.1687 (0.0899)	-0.0092 (0.0155)	-0.0355* (0.0167)	0.1714*** (0.0474)

Source: Authors' estimations.

Notes: Standard errors in parenthesis. * 10% ** 5% ***1% significance level. Each cell represents one independent regression with a set of controls.

Municipal Compensation Fund and Other Transfers to Municipalities

The discussion in the preceding section points out the impact of different types of transfers on the own-source revenue efforts of municipalities. This section takes a closer look at such transfers, in particular those from the FONCOMUN and those from extractive industries. The FONCOMUN is an equalization transfer program, established in 1994 by Legislative Decree 776 (Law of Municipal Taxation). It is financed with the so-called Municipal Promotion Tax, which consists of a surcharge of up to 2 percent on the value-added tax, plus other minor revenue sources. According to the 1994 law, the distribution of the FONCOMUN should be based on equity and compensation criteria, and the transfer should

ensure the functioning of all municipalities. More recently, Law 29332 of 2009, and Supreme Decree 060-2010 introduced “managerial performance” as an additional criterion in the distribution formula.

Box 6.2 summarizes the procedure currently used to distribute the FONCOMUN among municipalities. In the first stage, the funds are allocated to the provinces in proportion to their unmet basic needs, weighted by their population. In the second stage, provinces keep 20 percent of the funds, and distribute the remaining 80 percent among their respective district governments in accordance with three factors: population, managerial performance, and land area. The most important of these factors is population, with a weight of 85 percent, where rural population is assumed to have twice the expenditure needs of urban population. The factor secondary in importance is managerial performance, which is defined in terms of the rate of growth in per capita own-source revenue collections, and the share of transfers from FONCOMUN spent on capital expenditures. In the final stage, the amounts of transfers are adjusted so that all municipalities receive at least a minimum transfer equivalent to eight monthly UITs.

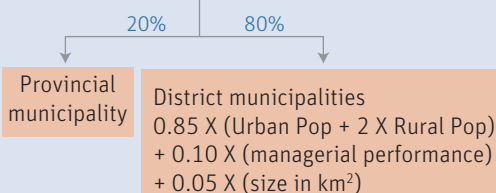
The FONCOMUN is an important component of municipal revenue in Peru in terms of its relative magnitude, as well as its compensating function; however, it has some shortcomings. First, it does not include revenue capacity indicators. Therefore, under the current system, even municipalities that have abundant fiscal resources receive transfers from the FONCOMUN. Second, the system of

Box 6.2 Distribution of the FONCOMUN

Stage 1: Geographical distribution to province j

$$\frac{Pop_j \downarrow j \times UBN_j \downarrow j}{\sum_{i=1}^N Pop_i \downarrow i \times UBN_i \downarrow i} \times FUND$$

Stage 2: Distribution to municipalities



Stage 3: Adjustments to ensure a minimum transfer of 8 (monthly) UITs to each municipality

Source: Based on Supreme Decree 156-2004 and Supreme Decree 060-2010.

allocation has two stages, meaning that two districts with the same needs but belonging to different provinces could receive different allocations.

The distortions engendered by the canon and other revenues from extractive industries are even larger at the municipal than at the regional level given the relative size of these transfers at the two levels of government. Tables 6.9 and 6.10 show the dispersion of such revenues across provinces and district municipalities, respectively. Table 6.9 shows that, in 2008, the maximum per capita transfer received by a province from extractive industries was 25 times greater than the maximum per capita transfer from the FONCOMUN received by a different province. The corresponding ratio for districts was 17 times.

As in the case of the FONCOR, the equalizing power of the FONCOMUN is weakened by several factors. First, the canon and other revenues from extractive industries are comparable to, or larger in magnitude than, those from the FONCOMUN. Second, FONCOMUN allocation criteria do not consider relative fiscal capacity, while the allocation of the canon does not consider relative expenditure needs. In 2008, the correlation coefficient between the two revenue sources was zero or very close to zero for provinces and districts, which implies that in practice the allocation of the canon and other revenues from extractive industries are independent of the expenditure needs at the provincial level (as approximated by the FONCOMUN).

Table 6.9 Variability of Provincial Revenues from Extractive Industries and FONCOMUN, 2004 and 2008 (nuevos soles per capita)

	2004		2008	
	Extractive industries	FONCOMUN	Extractive industries	FONCOMUN
Minimum	—	22.7	—	44.7
Maximum	1,265.6	1,037.5	24,072.6	954.7
(province)	(Purús)	(Iñapari)	(Lucumba)	(Lamud)
Simple average	51.3	161.3	397.6	260.1
Weighted average	8.3	25.7	44.5	46.6
Standard deviation	128.0	116.3	1,762.2	152.9
Coefficient of variation*	15.3	4.5	39.6	3.3
(Max–Min)/average	151.6	39.5	541.5	19.5
Correlation (extractive industries and FONCOMUN)	0.12		0.00	

Source: Authors' calculations based on data from the Ministry of Economy and Finances.

*The coefficient of variation is defined as the standard deviation divided by the weighted average.

Table 6.10 | Variability of District Revenues from Extractive Industries and FONCOMUN, 2004 and 2008 (nuevos soles per capita)

	2004		2008	
	Extractive industries	FONCOMUN	Extractive industries	FONCOMUN
Minimum	—	—	—	7.4
Maximum	2,383.6	1,662.6	29,003.5	1,691.9
(district)	(Lobitos)	(Curibaya)	(Ilabaya)	(San Jose de Ushua)
Simple average	57.3	165.0	423.2	198.2
Weighted average	17.4	37.3	134.1	66.4
Standard deviation	129.1	167.0	1,257.0	154.5
Coefficient of variation*	7.4	4.5	9.4	2.3
(Max–Min)/average	137.0	44.5	216.2	25.4
Correlation (extractive industries and FONCOMUN)	0.09		0.02	

Source: Authors' calculations based on data from the Ministry of Economy and Finances.

*The coefficient of variation is defined as the standard deviation divided by the weighted average.

In addition to transfers from extractive industries and the FONCOMUN, there are several other transfers from the central government to municipalities. In 2008, these transfers represented 11 percent of municipal revenue (Table 6.5). The most important of these transfers is the Glass of Milk (*Vaso de Leche*) program, which accounts for around 3 percent of municipal revenue. This program targets poor households with high nutritional needs, particularly pregnant or breast-feeding women, newborns, and the elderly. Glass of Milk is a classic example of a conditional transfer program aimed at fulfilling national objectives and administered entirely by the municipal governments. According to Stifel and Alderman (2003), the program has successfully targeted poor households and fulfilled their nutritional needs. Other transfers of lesser importance include municipal governments' share of customs duties collected by the national tax administration and certain transfer programs designed to support capital expenditures. In total these transfers account for approximately 3 percent of municipal revenue.

Estimating Municipal Revenue Potential and Effort

Under an optimal assignment of revenue sources, all government units would face the same marginal costs of public funds (Dahlby and Wilson, 1994). Correcting the marginal costs faced by subnational governments is one of the

most important roles of intergovernmental equalization transfers. In fact, if the objective of equalization transfers is restated as the equalization of the marginal costs of providing a standard bundle of public services, then a transfer program designed to equalize fiscal disparities becomes a powerful tool to simultaneously reach the objectives of efficiency and equity in a decentralized system of government (Martínez-Vázquez and Sepúlveda, 2012).

As highlighted in the preceding sections, the equalizing impact of the FONCOR and the FONCOMUN is more than offset by the unequalizing effects of transfers of revenues from extractive industries. Therefore, it is quite likely that the intergovernmental system has high efficiency and equity costs. The ideal way to solve the problems created by the canon and other revenues from extractive industries would be to change the distribution criteria and, specifically, to eliminate the derivation principle from the revenue sharing scheme. This, however, seems highly unlikely given the foreseeable opposition of the subnational governments that are rich in mineral resources.

In this context, one possible strategy in addressing the problems of equity and efficiency from the canon would be to incorporate measures of fiscal capacity that account for all revenue sources (other than equalization transfers) into the formulas used in the equalization transfer programs. At the very least, this type of reform would allow the system to start reducing the existing inequities and distortions before direct reforms to the laws on the canon, sobrecanon, and royalties can be enacted.

There are at least three possible ways to estimate the fiscal capacity of subnational governments (defined as the amount of revenues that can be raised under standard conditions of tax administration capacity and fiscal effort):¹⁴

- **Method 1:** Multi-year lagged averages of relative own-source revenue collections per capita. This method has the advantage of minimal data requirements but the disadvantage of possibly generating perverse incentives by inducing subnational authorities to collect fewer taxes in order to receive more (costless) transfers in the future.¹⁵
- **Method 2:** Basic proxies for the ability to pay and collect taxes, such as personal income and gross domestic product in each jurisdiction. The relevant data are, however, not always available, especially at the municipal level.

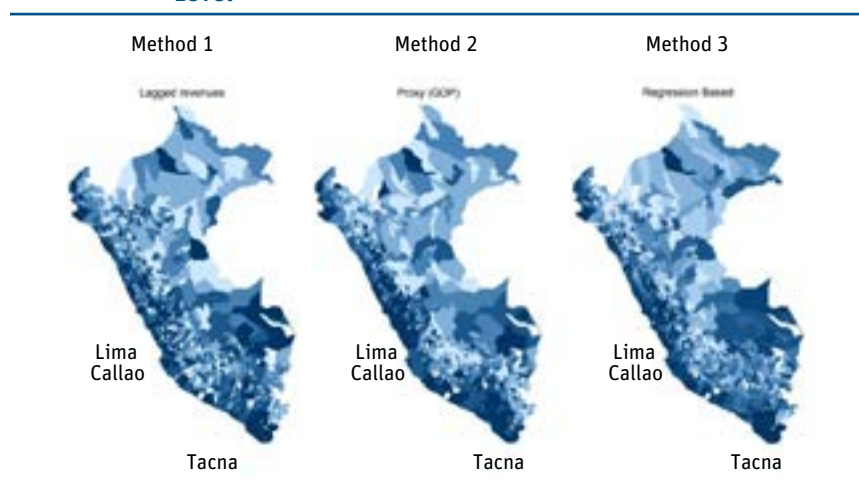
¹⁴ A more comprehensive discussion of the alternative methodologies for estimating subnational fiscal capacities can be found in Canavire Bacarreza, Martínez-Vázquez, and Sepúlveda (2012).

¹⁵ Martínez-Vázquez and Zekate (2004) developed a variant of this methodology to minimize such perverse incentives.

- Method 3:** A regression-based representative revenue system. The objective of such a system is to estimate the amount of revenue a government would collect from the available tax bases if it exerted an average level of fiscal effort. This method requires data on (or estimates of) subnational tax bases and usually interprets average fiscal effort as the average level of effective tax rates applied across the national territory. Given the lack of reliable data on subnational tax bases in Peru, fiscal capacities are estimated here using regressions similar to the ones presented in the previous section to explain subnational revenue performance, excluding intergovernmental transfers. The predicted value obtained with these regressions can be interpreted as potential revenue collections.

The three methods were applied separately to provincial and district governments. The results are mapped in Figure 6.1. The methods are represented in order from left to right, and estimates of greater per capita fiscal potential are represented by darker colors. As may be expected, the first method provides estimates that seem to closely match actual revenue collections. This is not surprising given the use of historical data to arrive at these estimates. Some common patterns are evident. For instance, districts in the provinces of Lima and Callao

Figure 6.1 | Distribution of Estimated Tax Capacities at the Municipal Level



Source: Authors' estimations.

Notes: Darker areas represent municipalities with higher tax capacity. The first graph shows the results from the average lagged revenues approach. The second graph shows the results from using a proxy (GDP) approach. The third graph shows the results from the regression-based representative revenue system approach.

appear to have relatively high own-source revenue potential. The region of Tacna (in the south) also displays high revenue potential, perhaps reflecting spillover effects generated by trade with neighboring countries.

Of the three methods, in principle, the regression-based representative revenue system would be the best option because it allows own-source revenue potential to be estimated while properly controlling for other factors that explain the difference between potential and actual revenue. However, presently, it is not very reliable for municipal governments in Peru because important variables that need to be considered (such as good indicators of institutional quality and administrative capacity) are not yet available at the municipal level. In the meantime, it may be preferable to rely on the more basic methods (1 and 2). The results for all methods for the provinces and districts are displayed in Table 6.11.

The distribution and variance of the three estimates of revenue potential are similar to those of actual revenues. For districts, they are also uncorrelated

Table 6.11 ■ **Basic Statistics for Actual and Estimated Potential Per Capita Own-Source Revenue (nuevos soles per capita)**

	Actual own-source revenue	Method 1	Method 2	Method 3	FONCOMUN
Provinces					
Minimum	4.1	4.0	32.3	0.0	46.9
Maximum	2,503.6	2,557.9	1,202.6	996.7	1,067.0
Average	107.0	110.3	190.6	119.9	288.7
Standard deviation	218.9	217.3	142.5	122.1	174.5
Coefficient of variation	2.0	2.0	0.7	1.0	0.6
(Max–Min)/average	23.4	23.2	6.1	8.3	3.5
Correlation with actual own-source revenue	1.00	0.99	0.26	0.68	0.03
Correlation with FONCOMUN	0.03	0.01	–0.19	–0.22	1.00
Districts					
Minimum	0.0	0.0	6.8	0.0	7.7
Maximum	2,857.0	3,454.8	4,013.3	607.9	1,861.1
Average	53.9	60.8	75.2	44.5	219.4
Standard deviation	176.5	199.5	172.9	63.7	177.3
Coefficient of variation	3.3	3.3	2.3	1.4	0.8
(Max–Min)/average	53.0	56.8	53.3	13.7	8.4
Correlation with actual own-source revenue	1.00	0.97	0.25	0.50	–0.02
Correlation with FONCOMUN	–0.02	0.01	0.06	–0.02	1.00

Sources: Ministry of Economy and Finances, and authors' estimations.

with the FONCOMUN, which suggests that the FONCOMUN is not currently compensating districts with lower fiscal capacity. The FONCOMUN performs better among provinces. Its correlation with methods 2 and 3 is -0.19 and -0.22 , respectively, which suggests that the criteria for distributing the equalization fund across provinces (unmet basic needs) might be capturing certain aspects of relative fiscal capacity.

The estimates of potential own-source revenues can be used to assess the relative degree of fiscal effort (defined as the ratio of actual to potential revenue) among municipal governments. Given the above-mentioned limitations of the methods to estimate fiscal capacity, this assessment must be viewed as quite tentative. Figure 6.2 shows the relationship between potential tax and non-tax revenues (plotted on the horizontal axis) and actual ones (on the vertical axis) for provincial and district governments, implying that municipalities lying above (below) the 45 degree line have collections greater (lower) than their potential.

The four graphs suggest that Peruvian municipalities exert very different levels of fiscal effort, and there seems to be no clearly similar pattern for municipalities of the same type or for collections from similar sources. The high concentration of municipalities close to the origin, as is the case with provincial taxes, and with both revenue sources at the district level, suggests that many municipalities collect few taxes because their revenue potential is also very limited. However, there are also significant differences between the actual and potential revenues in municipalities with clearly higher capacity, such as some in metropolitan Lima.

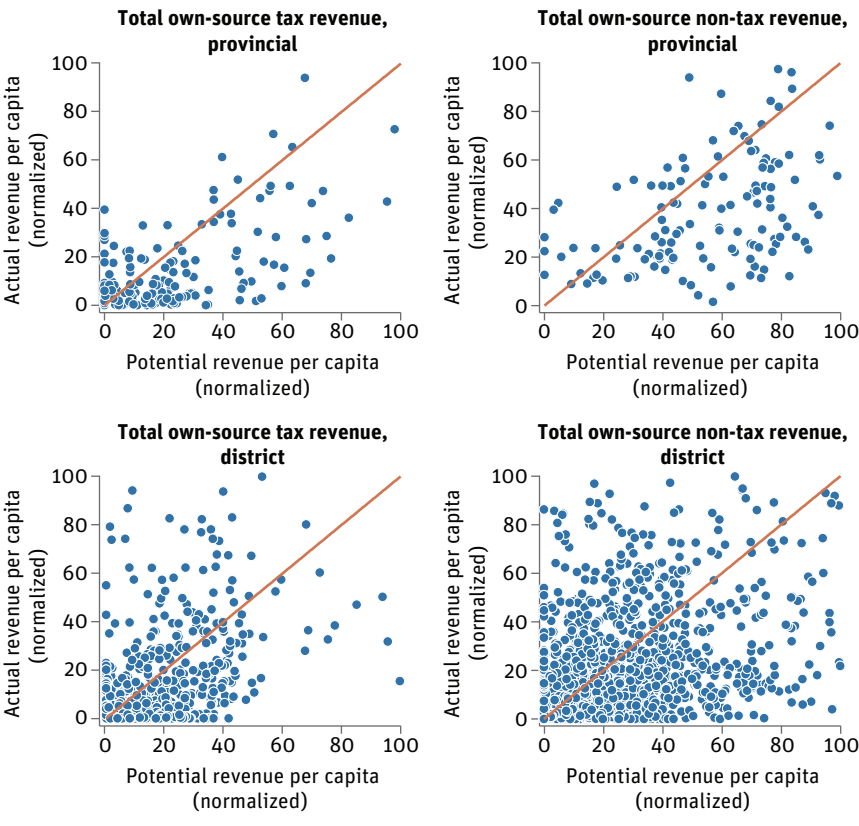
Options for New Own-Source Revenues for Regional Governments

As discussed in Chapter 1, finding appropriate tax handles for regional governments is generally more difficult than for municipal governments. A common approach to fostering fiscal autonomy at the intermediate levels of government is to allow tax bases to be shared with the central government, as in surcharges (so-called piggybacking) on personal income taxes or sharing municipal tax bases, as in property taxes. Another option would be to create an exclusive tax base, such as an excise tax.

Options for Sharing Tax Bases with Central Government

Before exploring options for sharing tax bases between the central governments and the regions, it is important to review the geographical distribution of national tax collection in Peru. In 2008, more than 84 percent of domestic taxes collected by the national tax administration originated from Metropolitan Lima.

Figure 6.2 | Provincial and District Distributions of Fiscal Effort



Source: Authors’ estimations.

Only a few other regions, in particular Callao, accounted for more than 1 percent of domestic tax collections. The location of large taxpayers and the level of economic activity can explain such concentration. For instance, almost 90 percent of corporate income tax is collected from large taxpayers in Lima. Taxes on international trade are also very concentrated, but this time in Callao, the country’s largest port, with 87 percent of collections, and in other regions with ports and customs offices, like Ica and Tacna.

Since tax collection is concentrated in Metropolitan Lima and Callao, the tax bases in other regions might not generate significant resources by piggybacking on central taxes or origin-based revenue-sharing arrangements. As a matter of fact, the majority of the regional governments receive more transfers in the form of ordinary resources than the total amount of domestic taxes the central government is able to collect in their region. In other words, several regions might not have the

tax capacity needed to finance their spending responsibilities, and therefore would necessarily depend on net subsidies from the central government. However, since national tax collections are currently significantly eroded by tax expenditures and evasion, the benefits of reforms providing regional governments with new revenue sources would increase if such reforms were accompanied by effective measures to reduce tax expenditures and improve compliance at the national level.

Several tax instruments could be assigned to the regional governments and choosing the most appropriate would require weighing several advantages and disadvantages.¹⁶ In principle, the most effective alternative for increasing the revenue autonomy and accountability of regional governments would be to allow them to levy a flat rate surcharge on the national personal income tax paid by their residents, with discretion to set the rate within a pre-specified range. Since taxpayers usually benefit most from public services in the region where they live, such a tax handle can be expected to roughly satisfy the benefit principle of taxation. The additional advantage is that this is one of the most visible taxes, even when collected by withholding, and therefore taxpayers are more likely to notice any tax rate increase by the regional government, and hold their politicians accountable for the use of the additional revenue.

The Single Revised Text of the Income Tax Law (approved by Supreme Decree 179 of 2004) establishes five categories of taxable income in Peru. Besides the corporate income tax, which corresponds to the third category, the law defines four categories of taxable income for individuals. The first and second categories encompass capital income in the form of rents from property leases and returns on financial investments, respectively. It could be argued that these types of personal income are not necessarily generated in the region where a taxpayer lives, and thus they would not adequately fulfill the benefit principle. Alternatively, horizontal and vertical equity considerations may require using capital income taxes, as they allow tax burdens to be distributed progressively across income levels. Therefore, capital income may or may not be included in the tax base of the regional personal income tax. A more clear case can be made for including professional income and the tax on wages, which correspond to the fourth and fifth categories, respectively, of the Income Tax Law. These taxes simultaneously satisfy the benefit principle and equity considerations, and at the same time, increase the accountability of regional authorities. Unfortunately, it is also quite likely that a more intense use of these taxes might exacerbate the problem of labor informality that is already pervasive in Peru. Therefore, using such taxes at

¹⁶ See, for example, Ter-Minassian (1997), McLure (1998), Bird (2000), and Martínez-Vázquez (2008).

the regional level should be accompanied by measures that incentivize tax compliance and reduce the push toward informality.

While desirable from the perspective of autonomy and accountability, it is important to note that an income tax surcharge would have limited revenue potential outside Lima and Callao and would exacerbate regional disparities. Data from the national tax administration regarding personal income tax collections from the fourth and fifth categories show that total and per capita tax collections vary considerably across regions and that collections do not represent a significant share of expenditures. Even if the regional governments were granted all collections from the fourth and fifth categories, on average they would be able to finance only 3 percent of their total outlays. The increased horizontal disparities could be offset by increasing the share of equalization transfers in total transfers, for example, by redirecting part of the ordinary resources to the FONCOR. This would have the added benefit of increasing the transparency of the transfer system.

Several other central government taxes could in principle be considered candidates for piggybacking. The personal income tax on capital income currently represents a very small proportion of revenue in the 24 regions, but this can be explained, in part, by the fact that interest income and capital gains are currently not subject to taxation. In contrast, revenue from the corporate income tax and the VAT are equivalent on average to more than 11 percent of regional expenditures and could therefore become important sources of revenue autonomy for regional governments. Excise taxes are negligible for most regions but an important revenue source in Ucayali. The four revenue sources are negatively correlated with FONCOR, suggesting that their use for regional government financing would, in principle, exacerbate current fiscal disparities.

The practical scope for introducing regional surcharges on these national taxes is, however, presently limited in Peru. Revenue from the personal income tax on capital income is small and likely unrelated to benefits from subnational services. Geographical apportionment formulas can be used for the personal income tax on capital income as well as for the corporate income tax, but these procedures are rather arbitrary and lead to imprecise estimates, as the experience of the United States makes clear. The VAT is shared with subnational governments in a number of countries using formulas based on population or regional GDP, but revenue-sharing arrangements do not increase subnational revenue autonomy and accountability. Regional VATs exist in only two countries (Brazil and Canada). This would certainly be a very complicated alternative for Peru, given the well-known problems with these types of taxes (see Chapter 1). Excise tax bases could provide some options if there is administrative capacity to implement differentiated regional rates.

Options for Sharing Tax Bases with Municipal Governments

Piggyback taxes and revenue-sharing arrangements for intermediate levels of government are usually thought of as being based on taxes administered by the central government. However, as discussed in the previous section, this alternative is likely to provide limited resources to regional governments in Peru in the foreseeable future. Therefore, it might be desirable to look for alternatives. One option worth exploring would be municipal governments sharing some of their tax bases with regional governments.

Citizens paying municipal taxes are most likely benefiting from regional as well as municipal services. Thus, if there is an identifiable link to benefits from services in some of the municipal taxes, as with the real estate property tax or the real estate transfer tax, this link may be extendable to services provided by regional governments. The arguments previously developed about citizen participation and accountability of regional authorities are equally valid for some municipal taxes.

However, sharing tax bases and revenue-sharing schemes involving municipal taxes might affect municipalities' already scant incentives to collect their own taxes. There would also be vertical fiscal externalities in which the decisions of one level of government would affect the revenue possibilities of another level.¹⁷ In this case, allowing regional governments a substantial degree of discretion in setting their own rates—even within a certain range—may not be desirable given the current fragility and small size of municipal tax bases. On the other hand, a potential benefit of regional governments sharing in municipal tax bases would be the economies of scale and the gains from increased capacity that could be obtained by involving regions in certain aspects of administering the shared taxes, such as managing the real estate cadaster or vehicle registry.

Although several municipal taxes could, in principle, be considered in financing a portion of regional expenditures, only taxes on immovable properties have the potential to provide any significant additional revenue in the near future. In 2008, revenue collections from the property tax on land and buildings and the tax on property transfers represented 2.7 percent of regional expenditures. This is a rather small proportion, but it could increase significantly, even double or triple, with proper improvements in the administration of those taxes.

¹⁷ These vertical externalities are also present in sharing between the central and regional governments, of course, but their significance may be larger for municipal governments.

Options for New Regional Taxes

This is a difficult process. It is as important to avoid choosing highly distortionary taxes as it is to discovering new taxes that may provide regional governments some revenue autonomy.

Some forms of business taxes or business license fees may provide regional governments with an administratively uncomplicated way to tax the income of businesses that benefit from public services and infrastructure. These should be envisioned as broad-based levies on general business activity falling equally on labor/payroll and capital (assets) used by businesses.¹⁸ Perhaps the best example of a well-designed regional business tax is Italy's IRAP (*imposta regionale sulle attività produttive*). The base of the IRAP is essentially the same as that of the typical VAT, but it is computed as the difference between sales revenue and the sum of all input purchases and depreciation (i.e., with a subtraction, rather than invoice crediting, method). The IRAP is, therefore, tantamount to an origin-based type of VAT. The rate is set by the central government at 4.25 percent, but regions may increase or decrease it up to 1 percent. The revenue is distributed among regions in proportion to the labor costs estimated for each region (and the tax rates applied). Another possibility is Chile's municipal patent, an annual levy paid on any commercial activity (trade, professional, industrial, and sale of alcoholic beverages) that requires a permanent office location.¹⁹

Another possible source of new tax revenue for regional governments would be excise taxes on public utility services, such as electricity and telephone services. In addition to their revenue potential and relative ease of administration, these taxes may be attractive because of their link to the benefit principle. Compared to other commodities, taxing public utilities is associated with relatively low distortions because of the relatively low price-elasticity of demand. However, when setting taxes on electricity consumption, the burden they impose on production costs for energy-intensive industries and the resultant loss of competitiveness need to be carefully considered. A tax imposed solely on residential consumption of electricity would avoid economic distortions but would not yield significant revenue.²⁰

¹⁸ For example, Bird (2003) discusses the business value tax (BVT), which is origin-based and uses a base calculated by adding payroll, interest, rents, and net profits from annual accounts.

¹⁹ Chile's municipalities select rates between 0.25 percent and 0.50 percent that fall on the declared (to the national tax administration) own capital of the business. The revenue potential is not insignificant. In Chile, the municipal patent raises approximately the same amount of municipal revenue as the property tax.

²⁰ See Appendix 3 of Canavire Bacarreza, Martínez-Vázquez, and Sepúlveda (2012) for details on estimating revenue from such a tax.

Environmental (green) taxes may offer an innovative and potentially significant source of revenue for regional governments in Peru (Gómez, Martínez Vázquez, and Sepúlveda, 2010). There is a great variety of possible green taxes, and they have been widely applied in both developed and developing countries around the world.²¹ Examples of green taxes include those applied on air pollutants like carbon dioxide, sulfur dioxide, nitrogen dioxide, and fuels; on transport such as car sales and the road tax; on waste; and on different products such as tires, beverage containers, plastic bags, and batteries.

Peru's Congress has already considered green taxes and, in January 2010, received a draft law on environmental taxation. In line with international practice, the initiative considered taxes on contaminants like sulfur dioxide and carbon dioxide, the polluting components of fuels, polluting factors of production, and polluting consumption goods. The draft law opens the door to creating subnational green taxes and assigns subnational governments the authority to establish new environmental fees. Of course, if Congress finally approves this or a similar version of the law, some regional governments may gain significant fiscal autonomy.

Comparative Assessment of New Tax Handles for Regional Governments

This comparative assessment of the alternative potential regional tax handles discussed above is based on what the literature considers the most desirable characteristics of a tax instrument. In Table 6.12, each instrument is rated as high (H), medium (M), or low (L) with respect to ten relevant criteria: revenue potential; elasticity of the tax base to changes in tax rates; conformity with the benefit principle; efficiency costs; administrative costs; compliance costs; scope for corruption; political acceptability; visibility and accountability; and distributional impact (i.e., increase in regional disparities). The eleventh criterion in the table (desirability as a regional own-source revenue) summarizes the previous ten.

In regards to revenue potential, the most promising candidates in Peru are a surcharge on the VAT, or a general sales tax, and a business tax modeled on the Italian IRAP. The rate elasticity of the potential tax bases is, of course, higher for the more mobile bases, in particular income from capital. On the basis of this criterion, the personal income tax on capital and the corporate income tax are not recommended as subnational tax instruments. These taxes would also rank low on the benefit principle criterion, which calls for correspondence between who pays the tax and its beneficiaries. The corporate income tax is the least desirable regional tax handle because it would distort the location and production

²¹ Speck, Skinner, Hogg, et al. (2005) provide an overview of green taxes in European countries.

Table 6.12 ■ Evaluating Alternative New Taxes for Regional Governments in Peru

	Sharing regional taxes with							New regional taxes			
	Central government taxes				Municipal taxes						
	Personal income tax		Corporate income tax		VAT	Land and buildings	Property transfers	IRAP	Electricity	Phones	Green
	Labor	Capital									
Revenue potential	M	L		M	M	H	M	M	M	M	M
Elasticity of tax base	M	H		H	H	L	L	L	L	L	L
Conformity to benefit principle	H	L		L	L	M	H	L	M	M	M
Efficiency costs	L	M		H	M	M	L	M	L	M	L
Administrative costs	M	M		L	M	M	H	H	M	L	L
Compliance costs	M	M		M	M	M	M	L	L	L	L
Scope for corruption	M	M		M	M	M	H	H	M	M	M
Political acceptability	M	M		M	M	H	L	L	M	M	H
Visibility and accountability	H	L		L	L	M	H	M	L	L	L
Distributional impact	M	M		H	H	M	M	M	M	H	H
Desirability as a regional revenue source	H	L		L	L	M	M	M	M	M	M

Source: Authors' compilation based partially on Bird (2003).

decisions of firms, which would likely alter relative prices of goods and services in the national economy.

Administrative costs are likely to be highest for the property tax and, by extension, the tax on property transfers, the effectiveness of which requires properties to be appropriately valued. The administrative cost of piggybacking on national taxes would be significantly lower, especially if regional governments contracted the national tax administration to collect and enforce piggybacking. Taxpayer compliance can be expected to be higher for income and property taxes than for taxes based on consumption. Visibility and political accountability are also likely to be higher for income and property taxes.

It is difficult to predict whether regional tax administration would increase or reduce the opportunities for corruption. Given the still-low level of development of tax administration in Peru and the poor tax compliance culture, especially outside the main urban centers, it seems reasonable that corruption could be a problem for all alternative tax instruments. In particular, property-based taxes might offer additional opportunities for corruption due to their atomized tax base, current difficulties in assessment, and the absence of political and administrative controls.

Political acceptability is a key requirement for any tax reform. In principle, it is not realistic to expect much political support for tax increases, but sharing national tax bases may be welcomed by regional governments if they see the change as a way to increase fiscal autonomy. On the other hand, central government may resist if it fears vertical competition. These fears could be allayed by setting limits on the discretion of regional governments in deciding the rates of surcharges on national taxes. Municipal governments are likely to strongly resist sharing their property tax bases with regional governments, as they would fear loss of revenue and fiscal autonomy.

The effect of new tax assignments on regional disparities is an important policy consideration for the central government and could plausibly influence the political acceptability of new tax revenue sources for regional governments. As noted above, income, consumption, and production are unevenly distributed across regions, implying that all the alternative tax instruments considered here would likely increase regional disparities. Table 6.13 presents basic statistics on the variability of those alternative regional revenue sources for which there is information on current collections. The table also shows the correlation between the alternative regional revenue sources and the FONCOR. In general, all sources considered display a high degree of variability across regions. The least variable revenue source is the municipal property tax, and the most variable is the corporate income tax.

Table 6.13 | Potential Effect of Alternative Revenue Sources on Regional Disparities, 2008 (nuevos soles per capita)

	Central government taxes				Municipal taxes		
	Personal income tax		Corporate income tax	VAT	Land and buildings	Property transfers	FONCOR
	labor	capital					
Minimum	0.5	0.2	1.5	1.4	3.0	0.0	6.4
Maximum	49.7	13.4	305.9	275.6	25.0	11.0	134.8
Simple average	18.2	4.9	66.6	73.1	12.0	3.5	47.2
Weighted average	20.1	4.6	77.7	85.7	11.7	3.8	34.7
Standard deviation	14.3	3.7	68.2	68.7	7.2	3.1	39.6
Coefficient of variation*	0.8	0.8	1.0	0.9	0.6	0.9	0.8
(Max–Min)/average	2.7	2.7	4.6	3.8	1.8	3.2	2.7
Correlation with FONCOR	–0.53	–0.36	–0.42	–0.48	–0.44	–0.47	1.00

Source: Authors' calculations based on data from the Ministry of Economy and Finances.

*The coefficient of variation is equal to the standard deviation divided by the weighted average.

An important problem with all the alternative revenue sources considered here, however, is the fact that their revenue potential is not only unevenly distributed, but also displays a high negative correlation with the FONCOR, which can be seen as a proxy for fiscal needs. This suggests that, in the process of reform, it will be important to combine the assignment of new revenue sources to the regions with greater funds for the equalization transfer program so that no additional disparities are introduced into the system.

In summary, there are no ideal revenue sources to increase the fiscal autonomy of regional governments in Peru, but some alternatives are better than others. As suggested before, a surcharge on the personal income tax on wages and professional income is a reasonably attractive alternative. Other alternatives might seem attractive from the perspective of revenue potential, but they are associated with important drawbacks. A VAT surcharge would very effectively increase revenue, but it would be difficult to administer when tax rates differ across regions. A variant of the Italian IRAP would allow rate variation, with lower administrative costs, but it might foster predatory tax competition among the regions, and it would adversely affect external competitiveness. Sharing municipal property tax bases could increase the effectiveness of administering this tax, but could negatively affect the already weak autonomy at the municipal level. Finally, creating new taxes on electricity, phones, or pollution seems very attractive as a way to increase tax collections and regional autonomy, but it would likely create additional disparities among regions.

Options for Increasing Municipal Revenues

Against the background of the analysis of determinants of municipal revenue capacity and effort, here we review options to improve revenue mobilization at the municipal level, which would require several well-coordinated initiatives. On one hand, the poor revenue performance of most municipalities in Peru suggests that assigning revenue sources could be revised. Governments that are not capable of benefiting from the revenue potential of their jurisdiction should be helped to develop the required technical and administrative capacity, or collection should be assigned to another, better-equipped level of government. That said, other reforms may be needed to promote more effort from both levels of municipalities in exploiting their assigned tax bases and to address equity concerns.

On the other hand, the municipalities' generalized lack of technical and administrative capacity calls for a more active role of upper levels of government in developing the technology and the knowledge required to collect taxes. The positive experiences of the semi-autonomous Tax Administration Service offices in a number of cities suggest that there is scope for a significant increase of revenue collection after modern and transparent collection agencies are introduced. This experience might not be replicable in all municipalities, but it provides evidence of positive returns on investment in tax collection capacity.

Options for Policy Reforms

Changes in Revenue Assignments

Provincial governments are currently assigned the tax on vehicle property, which requires relatively low administrative capacity and spending, while districts are assigned the real estate property tax, which is characterized by complex and expensive procedures. Given that administrative, technical, and financial capacities at the provincial level are, on average, significantly superior to those of district governments, it might be reasonable to consider a switch in the assignment of these tax instruments.

Modification of the Distribution Criteria of Transfers from Extractive Industries

Ideally, the distribution of transfers from extractive industries, currently based exclusively on the location of the extractive industries, should be changed by other criteria that also consider the expenditure needs and fiscal capacity of subnational governments. In practice, however, such a reform might not be attainable because of the strong political opposition of the current beneficiaries of the system. An indirect approach to reducing the distortionary effects of those transfers, based on a reform of the FONCOMUN, may constitute a more feasible alternative.

Reforming the FONCOMUN

A reform of the FONCOMUN would ideally involve several measures.

- **Introducing a measure of fiscal capacity in the equalization formula.** In the short run, or while there is not enough data to produce robust fiscal capacity estimates, it may be advisable to introduce only an adjustment that considers the transfers received from the canon, sobrecanon, royalties, and customs duties. In the medium term, when more data is available, a more sophisticated measure of fiscal capacity that takes into account the ability to generate own-source revenues would further increase the equalization power of the FONCOMUN.
- **Eliminating the minimum transfers of eight monthly UITs.** The measure of fiscal disparity considers the ability of a government to finance its expenditure needs. If fiscal disparity is negative, then the government needs no additional resources to cover its expenditure responsibilities. In this context, the minimum transfer is unnecessary, and those resources could instead be used to support other governments in greater need. This measure would increase the equalizing power of the program.
- **Separating the FONCOMUN into provincial and district components.** The procedure by which the transfer fund is first distributed to provinces and then to districts is unnecessarily complex and leads to undesirable inequalities. Indeed, two identical districts requiring the same financial support might receive different amounts of transfers only because they belong to different provinces. The system would gain in simplicity and fairness by assigning a share of the fund to the provinces (e.g., 20 percent) and the rest to all districts in the country in accordance with their fiscal disparities.
- **Increasing the size of the FONCOMUN.** A well-designed equalization transfer program contributes to enhancing equity and efficiency among subnational governments. The impact of such a program can be expected to increase with the share of the program in the subnational budget, and in Peru, the gains are particularly relevant because of the disparities created by revenues from extractive industries. One possible source of financing might be transfers from extractive industries, which, if set as a modest proportion of current transfers or applied only to a portion of future increases in revenues from the extractive industries, might enjoy higher levels of political acceptability.

Options to Strengthen Municipal Tax Administration

- **Asymmetric decentralization of tax administration.** Tax administration and tax collection could be assigned only to those municipal governments that have the means to administer and enforce collection of their assigned

tax instruments. Upper levels of government might temporarily play a subsidiary role by assuming functions that cannot be satisfactorily carried out by certain lower level governments, but in some cases it might be reasonable to consider a permanent assignment of these functions to the higher level.

- **Capacity-building.** Governments can build the capacity to administer and collect taxes, but many subnational governments lack the expertise and the resources to reach minimum standards of efficiency. Low-level governments might need technical and financial assistance from upper-level governments to develop their tax administration and collection capacities.
- **Subsidized initial investments in revenue collection capacity.** For example, for the property tax, the central government could assume responsibility for developing and maintaining the cadaster of properties at a national level and for a certain period of time. Once the cadaster has been developed, the responsibility of maintaining it could be devolved to lower levels of government. Other arrangements are possible, including assigning the responsibility for the cadaster to provincial municipalities and for district municipalities to the regional level.
- **Outsourcing.** Outsourcing certain aspects of tax administration and tax collection to private companies may be a feasible and effective alternative to enhance revenue mobilization, and even to improve the legitimacy of municipal taxation (von Haldenwang, 2010). Although this is still a controversial topic in the literature, some positive experiences involving outsourcing tax collections in Peru could be replicated in other jurisdictions.

Conclusion

After more than eight years of fiscal decentralization reforms, the revenue collection performance of Peru's subnational governments remains at very low levels, even compared to similar countries in Latin America. The sources of the problem are multiple and require a well-coordinated set of reforms. In addition to the necessary improvements in the administrative and technical capacity of subnational governments, the solution to the problem of subnational revenue mobilization in Peru requires an in-depth redesign of other important components of the system of intergovernmental fiscal relations.

Potential gains from greater subnational revenue collections are numerous and significant. On one hand, subnational governments would gain revenue autonomy, which in turn would enhance accountability to their electorates and thus promote more efficient expenditure decisions. On the other hand, greater subnational revenue mobilization could serve as an instrument to raise the overall tax

burden in Peru. The optimal size of the national tax burden is a topic that goes beyond the scope of this paper; however, if the country needs to increase government expenditures, greater subnational revenue collections would help meet the additional revenue requirements along with efficiency gains.

To address the core problem of subnational revenue mobilization in Peru, we explored options for reassigning revenue sources between provincial and district municipalities and for providing regional governments with their own revenue sources. For municipalities, the property tax now assigned to districts might be reassigned to the provinces, while the vehicle tax now assigned to the provinces might be reassigned to the districts. The paper also proposes administrative and capacity-building measures to enhance the revenue yield from the property taxes. Alternatively, the cadaster and property assessment functions could be reassigned to the central or regional governments.

As for regional governments, we discussed three ways to enhance fiscal autonomy. First, they could be allowed to levy surcharges on national taxes. The most likely candidate, based on various criteria, appears to be a flat rate surcharge on the tax on labor incomes within a pre-defined rate band. Surcharges on excise taxes could also be considered. Surcharges on individual or corporate taxes on capital income, or on the VAT, are less desirable from the perspectives of efficiency and administrative feasibility, although they might have greater revenue potential.

Second, regional governments could be allowed to levy a surcharge on property taxes. Although this option would be desirable based on efficiency criteria, and might improve the revenue performance of the property tax, the regional governments taking responsibility for the cadaster would be likely to run into strong opposition from the municipal governments. Finally, consideration should be given to the introduction of new regional taxes. Good candidates in this respect would be a business tax levied on the value-added of enterprises (like the Italian IRAP); a retail sales tax; excise taxes on the consumption of electricity and telephone services; and green taxes.

Given the concentration of current and potential tax bases in a few regions and metropolitan areas, all things being equal, increased revenue autonomy at the subnational level would exacerbate regional disparities. It would therefore be important to accompany revenue decentralization with reforms aimed at increasing the equalizing power of transfers from the center, for example, by redirecting some of funds currently allocated through the ordinary resource line of the budget to the equalization funds (FONCOR and FONCOMUN).

It would also be important to take steps to mitigate the dis-equalizing effect of the distribution formula of mining and oil royalties, which is based strictly on

an origin principle. Ideally, at least part of these royalties should be channeled to the equalization funds for distribution among subnational governments based on need rather than origin. This, however, is not likely to be feasible politically in Peru's current circumstances.

A more feasible alternative may be to reduce the equalization transfers currently going to resource-rich subnational governments by including an indicator of the revenue potential of the recipient governments in the equalization formula. While more reliable indicators of revenue capacity are being developed, an acceptable proxy would be a measure of own-source revenue plus the revenues from the canon, sobrecanon, and royalties. An equivalent reform was already introduced into the FONCOR in 2009, a precedent suggesting that this reform might plausibly enjoy some degree of acceptability at the municipal level. Still, the feasibility of the proposed reform is far from guaranteed. The size of the FONCOMUN is equivalent to five times the size of the FONCOR, so it is significantly more relevant, and attempts to introduce changes to its distribution formula are likely to face stronger political resistance.

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A Mariachi Medley: Mexico's Long Road to Fiscal Federalism Reform

7

IN THE 1990S, MEXICO UNDERWENT A RAPID PROCESS OF EXPENDITURE DECENTRALIZATION WHEREBY STATES BECAME RESPONSIBLE FOR EDUCATION AND HEALTH expenditures. The new responsibilities were largely financed through special-purpose transfers, which resulted in strong dependence of the states (intermediate level of government) and municipalities (local government) on transfers from the federal government. The level of fiscal vertical imbalances—defined as transfers as a percentage of total revenue—increased from around 75 percent in 1992 to 90 percent in 2000. Reducing such high levels of fiscal vertical imbalance has been the main aim of a series of reforms over the 2000s, but with meager results to date. In this chapter, we endeavor to contribute to an understanding of the factors behind the persistently high levels of fiscal vertical imbalances. In order to do so, we provide a brief description of the key features of the decentralization process, along with the evolution of subnational revenue between 2000 and 2007. In the next section we summarize the 2007 reform and its impact on each of the main subnational tax handles. We then explore the political economy of subnational revenue mobilization efforts and outline the main hypotheses that may explain the low subnational fiscal effort. Using a panel for the 31 states and the Federal District between 2000 and 2012, we then seek empirical support for our hypotheses. Finally, we provide some thoughts on the 2013 reforms and their likely impact on subnational revenue.

Stating the Problem: Decentralization with High Fiscal Vertical Imbalances

The Road to Revenue Centralization

At the beginning of the 20th century, Mexico had a chaotic and highly decentralized fiscal system that hindered economic growth. The federal government collected

less than two-thirds of total revenue, primarily through oil taxes, with the remainder being collected through a wide variety of local and regional taxes. This high level of revenue decentralization in the aftermath of the Mexican Revolution had its legal basis in the Federal Constitution of 1917. State governments were free and sovereign in their internal regime, including having the right to tax. Hence citizens were compelled to contribute to financing state spending needs (Díaz-Cayeros, 2006). Theoretically these taxing capabilities of state governments were restricted by two main limitations that in reality were rarely observed. First, to avoid double taxation on the same base, state and municipal governments were prohibited from levying the same taxes. Second, states could not tax the movement of goods or anything resembling local tariffs that would hinder interstate trade (Díaz-Cayeros, 2006). Nonetheless, states did not always obey these restrictions.

In the 1920s, after more than a decade of civil war, federal and state governments found their finances in complete disarray and had no administrative capability to systematically collect taxes. Consequently, the different levels of government were more concerned with solving their pressing financial concerns than with developing a coherent fiscal system. Public expenditures were generally financed by debt or monetary emission, and state and municipal governments levied taxes on whatever base was most expedient. Taxation was chaotic: there were at least 80 different types of taxes and 20 types of fees levied by the 25 state governments, adding up to more than 400 different regional taxes nationwide on top of federal taxes and fees, among which 34 restricted interstate trade (Díaz-Cayeros, 2006). This highly fragmented and decentralized fiscal system continued in Mexico until the 1940s. In the second half of the 20th century, there was a dramatic change in Mexico with the increasing centralization of political power accomplished by the Institutional Revolutionary Party.¹ At this time, taxing and budgetary powers shifted to the hands of the federal government.

This process of revenue concentration continued, reaching its peak with the National Fiscal Pact of 1980. This pact created the federal value-added tax (VAT). The states surrendered their right to tax income and commercial activities and allowed the federal government to impose an income tax and a VAT in exchange for transferring a share of federal revenue. This was the origin of the *participaciones*, the non-earmarked transfers to subnational governments (Courchene, Díaz-Cayeros, and Webb, 2000). Introduction of the VAT eliminated 18 federal taxes

¹ Once re-election was forbidden, the Institutional Revolutionary Party was able to provide a centralized ladder of progressive ambition to local politicians. As the president controlled the nominations to these positions, regional politicians found a new and strong incentive to conform to the preferences of the president and consequently of the federal government (Nacif, 2002; Díaz-Cayeros, 2006).

and about 450 local taxes, with consequent gains in efficiency and simplicity but with further concentration of income at the federal level, which reached 90 percent of all tax revenue in 1981.

The Road to Expenditure Decentralization and High Vertical Imbalances

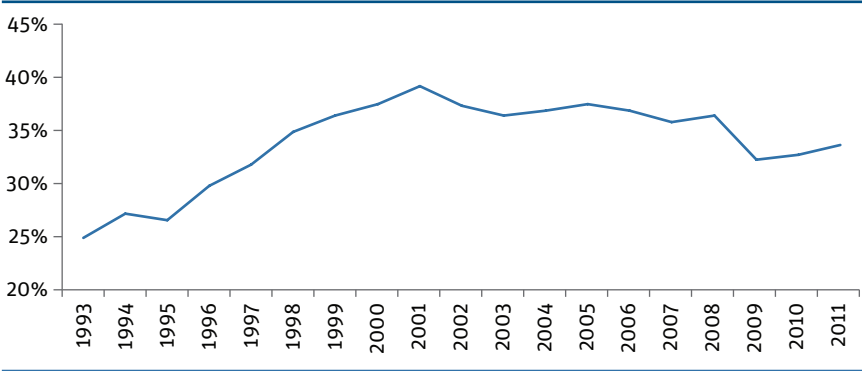
In the 1980s, as the level of fiscal centralization reached its peak, the centralized political arrangement that had made it possible began to weaken. Increasing electoral competition in the municipalities and states undermined the political grip of the Institutional Revolutionary Party. In the early 1990s, Mexico witnessed incremental electoral reforms and constant gains by opposition parties at the regional level (Ochoa-Reza, 2004).

By the mid-1990s, the Mexican electoral system had become highly competitive and reliable, particularly at the regional and local levels. For regional politicians, it became increasingly convenient to openly challenge the role played by the central government and to demand more resources from higher levels of government. Demand for decentralization of spending responsibilities and related budgetary resources became a valuable political flag for opposition parties. Eventually every political party, including the Institutional Revolutionary Party, was talking about decentralization (Loaeza, 1999; De Remes, 2000; Ochoa-Reza, 2004; Díaz-Cayeros, 2006). At the end of the 1990s, in order to maintain governability of the country, the federal government transferred an unprecedented amount of resources to state and municipal governments.

State governments' demands for additional resources along with the wave of decentralization and devolution around the world resulted in a substantial transfer of expenditure responsibilities to the states in the 1990s. Financial responsibility for primary education was transferred to the states in 1992, with health services following in 1996. The new spending responsibilities were financed with a significant increase in earmarked transfers, which culminated in the creation of a specific budget item—Ramo 33—in 1998. As a result of this process, the percentage of total primary public sector expenditures carried out by the states and municipalities increased from 25 percent in 1993 to an average of 36 percent in the 2000s (Figure 7.1).

Increased expenditure decentralization financed through special-purpose transfers resulted in the states and municipalities being highly dependent on transfers from the federal government. The degree of vertical fiscal imbalance increased from around 75 percent in 1992 to 90 percent in 2000. Such high levels of vertical imbalance are a weakness of Mexican decentralization because there is no incentive for fiscal responsibility or political accountability at the sub-national levels. Literature suggests that decentralization leads to, or should lead

Figure 7.1 | Public Sector Expenditures by Subnational Governments (as a percentage of total expenditures)



Source: Fifth National Report delivered by Felipe Calderón’s presidency.

to, both fiscal responsibility and political accountability; however, high vertical imbalance hinders these potential benefits.

The Mexican government acknowledges the asymmetry in the country’s decentralization process and has sought a more balanced process through a series of reforms designed to encourage less reliance on central transfers by subnational governments. In particular, subnational governments must have the ability and incentives to raise own-source revenues at the margin in order to have sufficient desire to spend efficiently.

Evolution of Subnational Revenues: 2000–07

After states had surrendered their power to tax income and commercial activities under the fiscal pact of 1980, there remained three primary sources of state revenues:

- Non-tax revenues—including licenses, public property registry, fines, and surcharges
- Tax revenues on a wide array of activities—primarily payroll taxes, taxes on certain production and commercial activities, lodging services, lotteries, and public entertainment
- Federally coordinated taxes—which are federal taxes (definition of the tax base and the determination of the tax rate are set by the federal government) collected by state governments, which keep the proceeds

Table 7.1 indicates that, between 2000 and 2007, total state revenue remained essentially constant at around 1 percent of GDP and unchanged from

Table 7.1 | **Total State Collection: Local Revenue and Federal Coordinated Revenue (in percent of GDP)**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total state collection	1.12%	1.09%	1.13%	1.15%	1.18%	1.22%	1.32%	1.39%	1.41%	1.42%
Local revenue	0.84%	0.83%	0.87%	0.89%	0.89%	0.91%	0.98%	0.97%	1.01%	1.06%
Taxes	0.39%	0.38%	0.34%	0.38%	0.38%	0.39%	0.39%	0.41%	0.44%	0.49%
Payroll	0.22%	0.21%	0.20%	0.22%	0.22%	0.24%	0.25%	0.26%	0.28%	N/A
Other local taxes	0.05%	0.05%	0.05%	0.05%	0.06%	0.06%	0.06%	0.07%	0.07%	N/A
State car ownership tax (> 10 years)	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	N/A
Lodging	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	N/A
Personal Property	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	N/A
Other ^a	0.02%	0.02%	0.02%	0.02%	0.03%	0.03%	0.03%	0.03%	0.04%	N/A
Property tax and property sales tax ^b	0.12%	0.11%	0.09%	0.11%	0.09%	0.09%	0.09%	0.08%	0.09%	N/A
Non-tax revenue	0.46%	0.46%	0.53%	0.51%	0.52%	0.52%	0.59%	0.55%	0.57%	0.57%
Rights ^c	0.24%	0.23%	0.24%	0.25%	0.24%	0.25%	0.24%	0.24%	0.32%	0.33%
Products ^d	0.14%	0.10%	0.12%	0.13%	0.13%	0.12%	0.12%	0.11%	0.06%	0.05%
Exploitations ^e	0.06%	0.10%	0.14%	0.11%	0.13%	0.12%	0.20%	0.18%	0.18%	0.19%
Contributions	0.02%	0.02%	0.02%	0.02%	0.02%	0.03%	0.02%	0.02%	0.01%	0.01%
Incentives	0.28%	0.26%	0.26%	0.27%	0.28%	0.31%	0.34%	0.42%	0.39%	0.36%
Car-related incentives	0.25%	0.23%	0.22%	0.23%	0.24%	0.24%	0.23%	0.22%	0.20%	0.16%
Federal car ownership tax	0.19%	0.17%	0.16%	0.16%	0.18%	0.18%	0.17%	0.17%	0.15%	0.11%
Tax on new cars	0.07%	0.06%	0.06%	0.06%	0.05%	0.05%	0.04%	0.03%	0.04%	0.04%
Exemption from the tax on new cars	N/A	N/A	N/A	N/A	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
Fuel	N/A	N/A	N/A	N/A	N/A	N/A	0.04%	0.13%	0.13%	0.12%
Income tax and VAT on small enterprises ^f	0.02%	0.03%	0.04%	0.04%	0.04%	0.07%	0.07%	0.07%	0.06%	0.07%

Source: Ministry of Finance; for 2011, the source for taxes is the National Institute of Statistics and Geography.

Note: N/A = data not available.

^a Considers taxes on amusements and shows, prize draws, etc.

^b Considers property tax collection and the real estate acquisitions from the Federal District.

^c Alcohol, construction, driving, and other licenses; Public Property and Commerce Registry; Civil Registry.

^d Interests and state companies.

^e Fines and surcharges; donations.

^f Tax collection from small and medium taxpayers, real estate acquisition, and maritime and land federal zones.

the 1980–2000 average of 1.1 percent of GDP.² The primary source of state revenue was non-tax revenues, which accounted for 43 percent of total revenues in 2007, equivalent to 0.5 percent of GDP. Alcohol, construction, and driving licenses were the main sources of non-tax revenues. Tax revenues were secondary, and accounted for 32 percent of total state revenues, with payroll taxes accounting for more than half. Finally, federally coordinated taxes accounted for 25 percent of total revenues, with the federal car ownership tax and the regime for small enterprises accounting for the majority. These aggregated numbers mask significant heterogeneity in the number of tax handles exploited by each state, but in general, we observe that the willingness of states to make use of their available tax handles has been low.

The slow pace at which states in Mexico adopted payroll taxes, their main source of tax revenue, exemplifies this. Table 7.2 shows that, despite its being first adopted by the State of Mexico in 1971, it was not until 35 years later that all states had introduced a payroll tax. Only half of the states had adopted a payroll tax by 1990, and, by the year 2000 there were still nine states without one. As mentioned above, the particular features of the Mexican political context likely influence this slow introduction of the main tax handle during the second half of the 20th century. Since the political fate of governors was largely disconnected from regional preferences, incentives to use tax handles to finance regional spending were weak.

Adopting this tax handle was a gradual process of convergence. Most of the rates are now clustered around 2 percent and have remained stable. This convergence was likely influenced by a process of incremental accumulation of information that reduced the costs of introducing the tax. Individuals were more certain about the benefits and costs, and, based on the experiences of states that had introduced the tax previously, states were more confident in their ability to administer the tax. This hypothesis is consistent with findings in the literature about the factors that influence the process of policy reform in Latin America (Lora, 2007; Lora and Olivera, 2004). Over time, states learned from one another that payroll taxes are relatively productive and uncomplicated to administer, and about the distribution of costs (Bahl and Bird, 2008). A similar convergence occurred with Lodging and Lottery taxes, which, by 2006, had been introduced by all but one state (SHCP, 2007). Other tax rates also converged around similar levels: for lotteries, 26 states had adopted a 6 percent rate by 2006, and for lodging, 27 states had a tax rate of 2 percent.

² For a discussion of the evolution of state revenue for 1980–2000, see Sobarzo (2007).

Table 7.2 | Year of Enactment and Rate of the Payroll Tax by End 2012

State	Enactment	Tax rate	State	Enactment	Tax rate
Aguascalientes	2005	1.5%	Morelos	2006	2.0%
Baja California	1975	1.8%	Nayarit	1991	2.0%
Baja California Sur	1990	2.5%	Nuevo Leon	1976	2.0%
Campeche	1992	2.0%	Oaxaca	2002	2.0%
Chiapas	1989	2.0%	Puebla	1990	2.0%
Chihuahua	1979	1.0%–2.6%	Queretaro	2004	1.6%
Coahuila	1991	1.0%	Quintana Roo	1985	2.0%
Colima	2004	2.0%	San Luis Potosi	1999	2.0%
Distrito Federal	1988	2.0%	Sinaloa	1990	1.5%
Durango	1995	2.0%	Sonora	1977	2.0%
Guanajuato	2004	2.0%	Tabasco	1978	1.0%
Guerrero	1983	2.0%	Tamaulipas	1977	2.0%
Hidalgo	1982	0.05%–2.0%	Tlaxcala	1989	2.0%
Jalisco	1990	2.0%	Veracruz	2001	2.0%
Mexico	1971	2.0%	Yucatan	1992	2.0%
Michoacan	2003	2.0%	Zacatecas	2001	1.9%

Source: State income laws.

With the arrival of a competitive electoral democracy, governors' incentives changed, but results remained the same, exemplified by the regime for small enterprises and the final sales tax. In 2002 and 2003, two reforms aimed at enhancing the own-source revenues of the states.³ First, in 2002, a reform was approved in the budget (*Ley de Ingresos de la Federación*) that allowed states to establish a final sales tax (on gross receipts) with a maximum rate of 3 percent. None of the states took advantage of this reform, arguing legal uncertainties regarding their ability to implement the tax. In 2003, the federal government proposed a set of reforms to the income tax and VAT laws; however, Congress rejected the reforms. Furthermore, Congress eliminated the legal provision introduced the previous year that allowed states to collect a final sales tax.⁴ Beyond any potential legal concerns, the states' rejection of the final sales tax must be understood within a Mexican context where VAT and consumption-like taxes are particularly controversial and politically costly (Magar, Romero, and Timmons, 2009). The federal

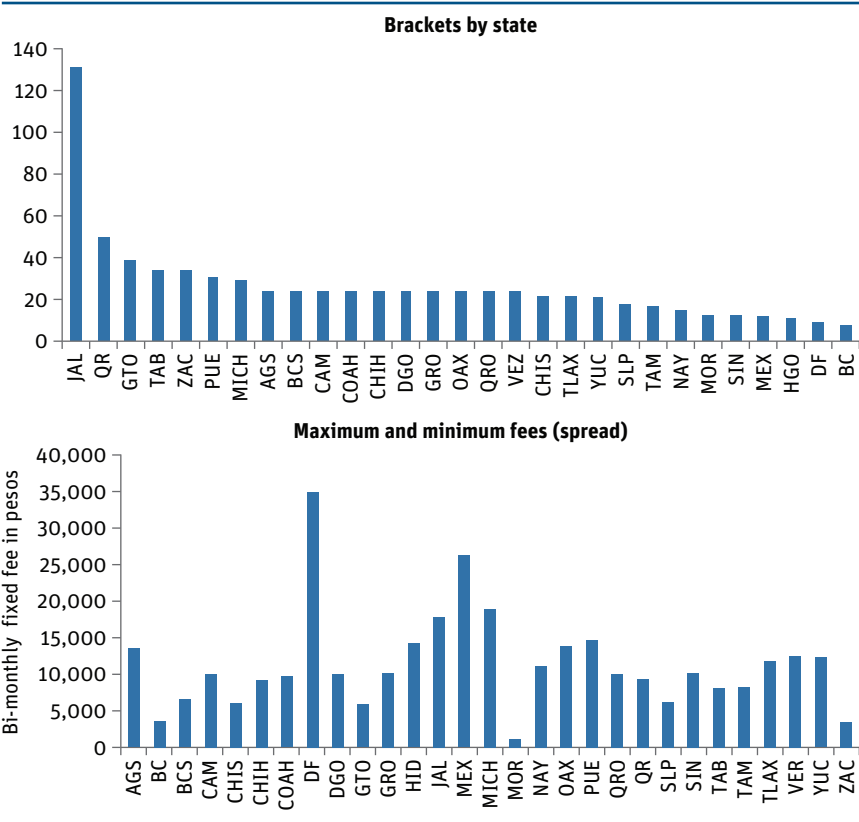
³ For a detailed discussion on the evolution of subnational sources of revenue see SHCP (2010).

⁴ For more details see *Ley de Ingresos de la Federación* 2002 and *Iniciativa de Ley de Ingresos de la Federación* 2003, which can be found at www.hacienda.gob.mx.

government’s proposals to expand the tax base of the VAT were rejected twice by Congress—in 2001 and 2004—after acrimonious discussions. After these failed attempts, efforts to introduce any general sales tax became politically unfeasible and therefore unpalatable for the states.

The states’ reluctance to exploit new tax handles was reinforced when the handle implemented for small enterprises failed. In 2003, the income tax and VAT laws were amended to delegate to the states administration of these taxes for small enterprises—defined as those companies with annual earnings of less than 2 million pesos—allowing the states to keep the proceeds. This second reform also sought to simplify tax payments because taxpayers were expected to estimate their gross revenue and pay bimonthly fixed fees, without submitting income statements. By 2006, the fixed quota regime for small enterprises had become very complex, characterized by high heterogeneity among states, with high levels of evasion. The purportedly simplified regime for small enterprises on

Figure 7.2 Tax Brackets of Regime for Small Enterprises (end of 2006)



Source: Ministry of Finance.

average had 29 tax brackets with spreads of up to 35,000 pesos on the quotas paid by the lowest and highest brackets.

Despite the very high number of tax brackets, close to 90 percent of all small enterprises were placed in the lowest brackets, claiming to have annual income of less than 150,000 pesos. This was a clear sign of tax evasion, since, as shown by the 2006 Economic Census, the average annual income of a small vegetable and fruit shop—arguably the typical small enterprise—was 350,000 pesos. A study conducted by the Technological Institute of Monterrey (ITESM, 2011) confirms that in 2006 evasion by small enterprises was generalized, reaching 97 percent of the tax base, with a revenue loss of 0.6 percent of GDP.

In summary, the picture that emerges from the evolution of subnational revenues between 2000 and 2007 is one of significant caution when the states make use of their tax handles. It has taken a long time—over 30 years—for states to learn from one another's experiences and adopt the payroll tax across the country. Similarly, despite their significant tax bases, states seem reluctant to exploit small enterprises or the final sales tax on gross receipts—probably due to their very high political visibility and costs. Overall, between 2000 and 2007, efforts by states to mobilize own-source revenues were modest.

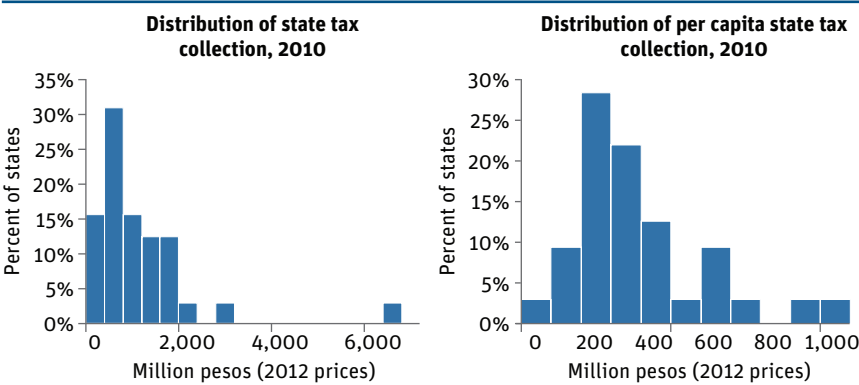
Heterogeneity of Subnational Tax Collection

As previously mentioned, one important characteristic of state and municipal tax collection in Mexico is its marked heterogeneity. In 2010, 28 states collected on average less than 2,000 million pesos. The states that collected the least were Tlaxcala (158.3 million pesos), Zacatecas (286.9 million pesos), and Oaxaca (374.2 million pesos). In contrast, tax revenues in the State of Mexico were almost 6,500 million pesos. In 2010, in per capita terms, state tax collections were, on average, 353.9 pesos. The variation across states is still considerable using this measure: collections in Campeche (1,075.3 pesos) were 10 times higher than in Oaxaca (98.4 pesos).

The state data clearly show a positive correlation between GDP and state tax collections in per capita terms; however, there are many observations that are far from the linear trend. Considering only the share of GDP related to services (tertiary sector), there is no clear relationship between the series. Thus, even though GDP explains some of the differences among per capita tax collections, the composition of GDP does not. Note that the most important tax at the state level is the payroll tax, which represented almost 50 percent of all state tax revenue in 2010.

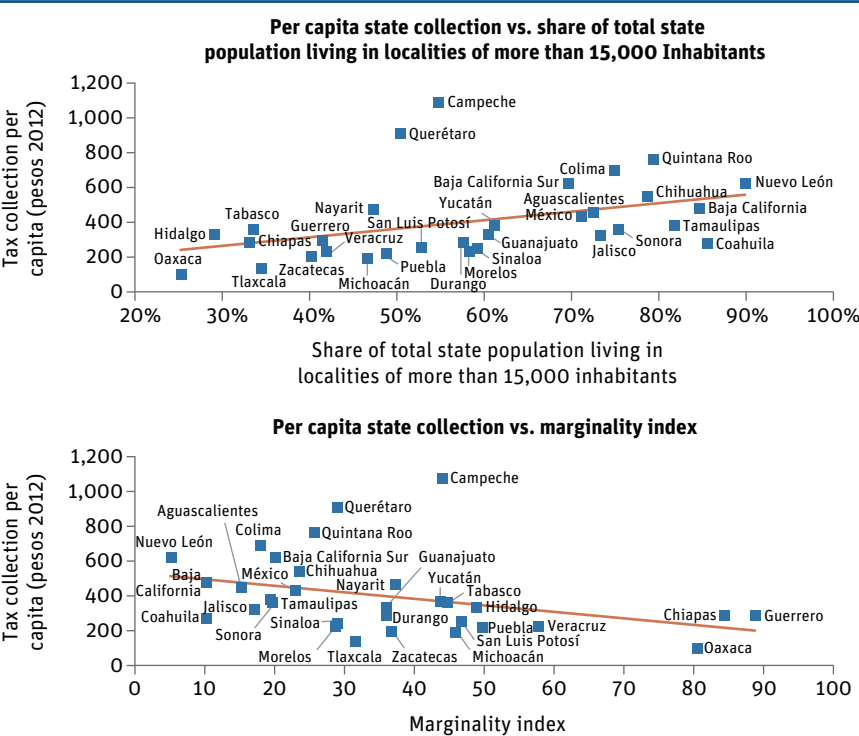
There is also a negative correlation between tax collections in per capita terms and the marginality or poverty index, and a positive relationship between collections and the share of the population living in urban areas (localities

Figure 7.3 | State Tax Collection by Income Level, 2010, expressed in 2012 prices



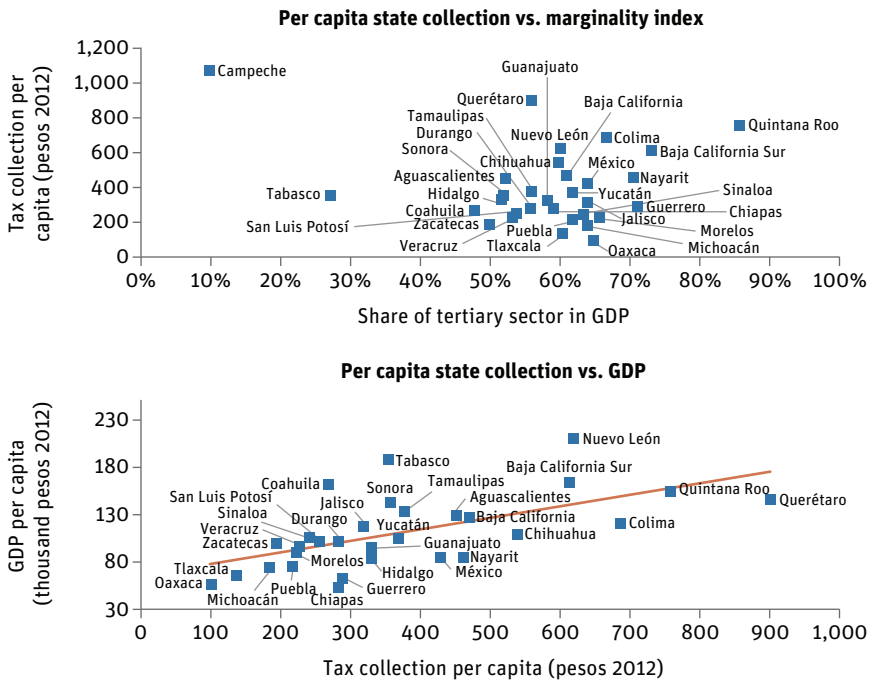
Source: National Institute of Statistics and Geography.

Figure 7.4 | State Tax Collection and Poverty



Source: National Institute of Statistics and Geography.

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Figure 7.4 | **State Tax Collection and Poverty** (*continued*)

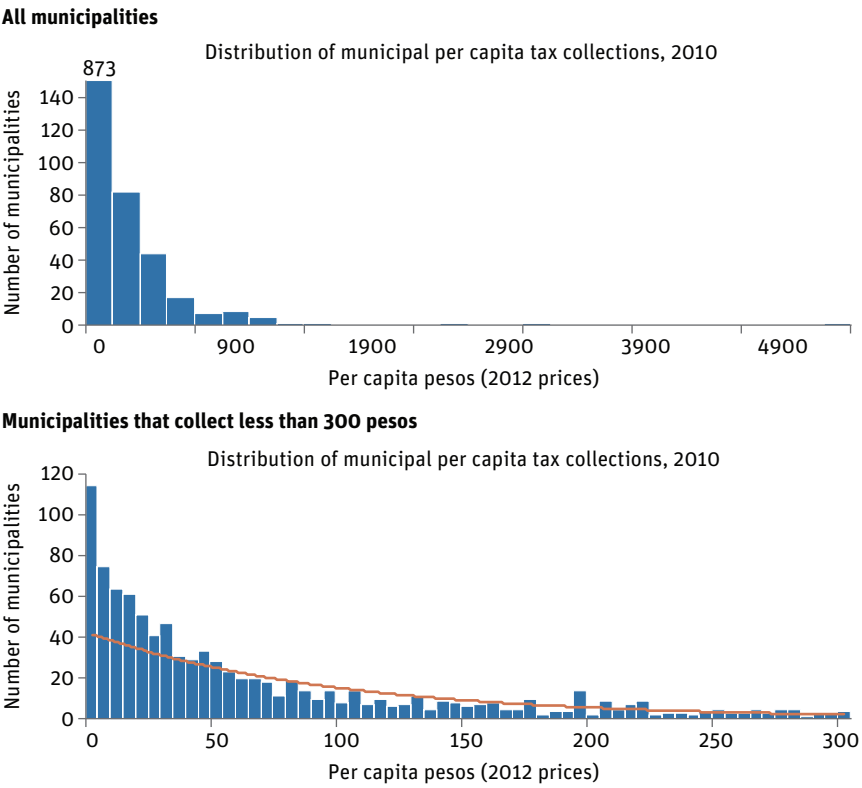
Source: National Institute of Statistics and Geography.

with more than 15,000 inhabitants). Figure 7.4 presents some evidence of the specific nature of the disparities states face in collecting taxes. Poor rural regions collect less in per capita terms, reducing the public resources available to promote development, which in turn generates a vicious cycle of low tax collections.

The negative correlation between tax collections and the poverty index is shown by the rate of growth of tax revenues between 2005 and 2010, which also varies substantially among states. According to the National Institute of Statistics and Geography, three states (Baja California, Chihuahua, and Tlaxcala) registered minor declines in per capita tax collections during this period. On the other hand, there were states, including Aguascalientes, Campeche, Colima, Morelos, and Tabasco, in which tax collections per capita grew by over 15 per cent per year.

The heterogeneity of taxation at the municipal level is even higher. The distribution of municipal per capita tax collections is presented in Figure 7.5, partitioning the range due to the strong skew in the distribution. The first graph

Figure 7.5 | Distribution of Municipal Per Capita Tax Collection, 2010



Source: National Institute of Statistics and Geography.

shows all municipalities, while the second shows only those municipalities having less than 300 pesos of tax revenue per capita (approximately 91 percent). Most notably, the municipality of San Pedro Garza García, in the state of Nuevo León, in 2010 collected more than 5,300 pesos per capita. The most relevant tax at the municipal level is the property tax, which accounted for 59.3 percent of all municipal tax revenue reported in 2010.

Attempts to Reduce Imbalances: 2007 Reform and its Impact

The Mexican government acknowledged in 2007 that it was necessary to update the federal fiscal pact to one that would generate more responsibility among the three levels of government and improve the quality of spending. To achieve this, it included a federalist pillar in the tax reform with these key goals:

- Extend taxing powers of the states without undermining federal finances
- Improve incentives in the earmarked and non-earmarked transfer formulas, conditional on there being no reduction in the nominal value of transfers to any state
- Harmonize accounting at all levels of government
- Strengthen local auditing (SHCP, 2007; SHCP, 2009)

Expanding the Tax Powers and Strengthening Incentives to Use Them

As established by the literature on fiscal federalism, regional excises such as a fuel tax are among the best potential revenue sources for subnational governments (Bahl and Bird, 2008; Bird, 2011). Most central governments already raise significant revenue from this tax, which could be levied at the state level as well. States could impose different tax rates with the only restriction being on keeping the rates close to those of their immediate neighbors in consideration of the mobility of the tax base (Bird, 2011). Similarly, taxing automobiles is a revenue option available to regional governments. An annual automobile license fee can effectively price the use of publicly provided services. Such fees might even be based on features that determine certain costs and externalities. For example, a big, old engine pollutes more than a smaller, more modern engine, and, therefore, the owner should pay a higher fee. Trucks with the highest axle-weight ratio should be charged more since these are the vehicles that damage roads the most. In short, subnational taxation of automobiles and fuel is a good option for state and municipal governments. By taxing fuel and vehicles, subnational governments would not only be generating additional resources, but would be addressing externalities and pricing problems.

In line with the fiscal federalism literature, the 2007 reform sought to expand the taxing powers of states primarily by expanding the use of excise taxes on fuel and fees on automobiles by allowing states the following new powers:⁵

- **State Fuel Tax:** a tax on the final sale of fuels of 36 cents per liter, which was established as a federal tax administered by the states until 2012. The federal government had expected to reform the Constitution by then so that the fuel tax could become a subnational tax with the states setting the rates.
- **Car Ownership Tax:** the federation transferred the power to tax the ownership of vehicles to the states.

⁵ For a detailed discussion of the 2007 reform, see Revilla (2013) and De Urioste (2008).

- **Excise Tax on Alcoholic Beverages:** this tax is imposed on final sales of alcoholic beverages, except beer.

In addition to increasing the taxing powers of the states, the 2007 reform modified the non-earmarked transfers formulas to reward tax collecting efforts and economic activity (measured by GDP). The new formula uses the following weights:

- 60 percent for GDP growth in the state
- 30 percent for the increase in state revenue
- 10 percent for the share of state's revenue in the total⁶

All changes in the formulas were made under the premise that no entity would suffer a nominal reduction from the 2007 level; therefore, only increases in non-earmarked transfers above the 2007 level are distributed according to the new formulas.⁷ Figure 7.6 shows that the result of the new formula is higher increases in per capita transfers for those states with greater tax effort (top panel), whereas, with the previous formula, per capita transfers were not correlated with tax effort (bottom panel).

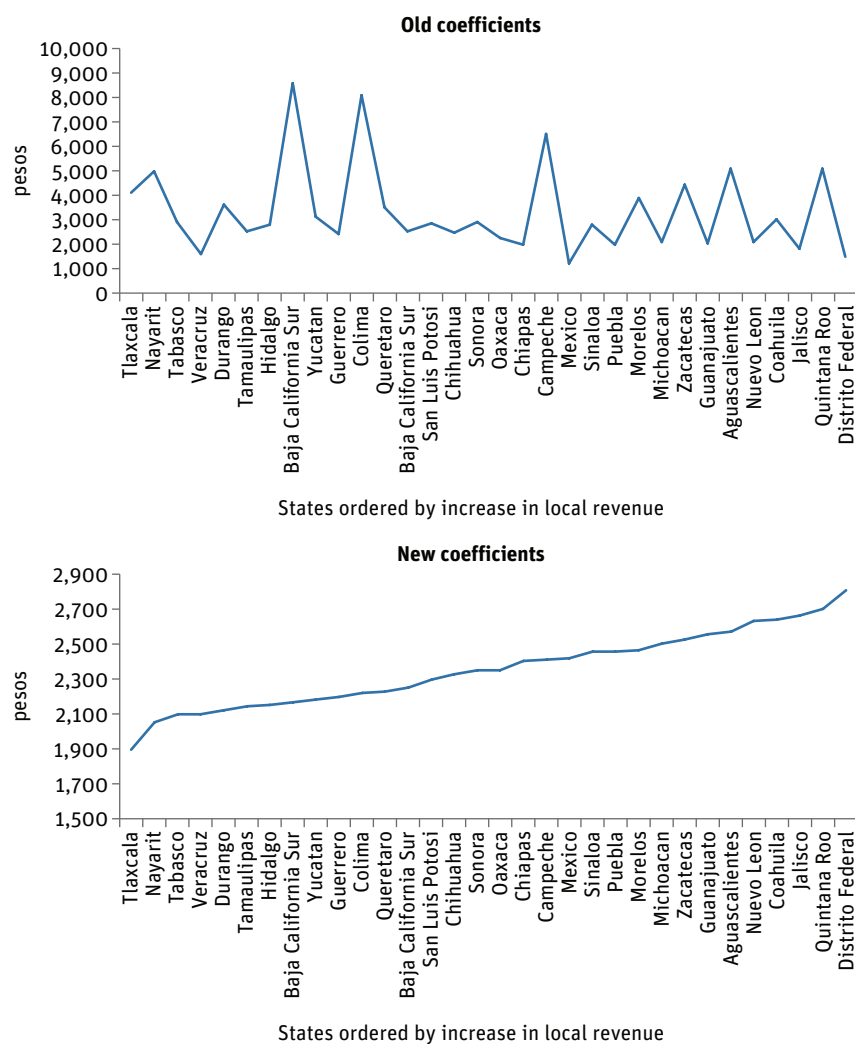
Furthermore, to strengthen the incentives for revenue mobilization, the Control Fund was created to reward those entities achieving greater collections from small enterprises. In addition to these reforms that had a direct influence on the ability and incentives of states to collect taxes, the 2007 reform also enhanced the transparency and accountability of states by initiating a process of accounting harmonization and strengthening state-level auditors. As a result of the 2007

⁶ The previous formula had three coefficients that distributed the fund in the following proportions:

- 45.17 percent according to the relative population of the state
- 45.17 percent according to increases in a set of specific local tax revenues (as a proxy for both local effort and state economic activity)
- 9.66 percent according to a redistributive coefficient, equivalent to the inverse of the previous two elements

⁷ Similarly, the earmarked transfers formulas were modified for the transfers earmarked for education. Criteria for the resource allocation of the Contributions Fund for Basic and Normal Education, which aim to give more transparency to the distribution of the fund, promote the quality of basic education, and reduce disparities in spending on students. The new formula uses the following weights:

- 20 percent for closing a gap between the per capita transfer and the average per capita transfer
- 50 percent for wages
- 10 percent to reward the quality of education
- 20 percent for state spending on education

Figure 7.6 ■ Non-earmarked Transfer per Capita, 2006

Source: De Urioste (2008).

reform, in 2008, Congress approved the General Accounting Law, which includes the following:

- harmonized budget and accounting requirements
- minimum financial reporting requirements
- main features of annual public accounts
- lessons from international best practices (e.g., accrual-based accounting)

Regarding auditing, the 2007 reform strengthened the powers of the Federal Auditor General, a technical body of the Chamber of Deputies, to audit and make recommendations on federal transfers, other than non-earmarked transfers, received by states and municipalities. In addition, to strengthen the powers of state auditors, the 2007 reform established that they must be nominated by two-thirds of the state legislature for a period of no less than seven years.

In summary, the 2007 reform was clearly a significant and comprehensive reform that not only sought to enhance subnational revenue, but also strengthened state and municipal accountability and transparency. It made great strides in modernizing Mexico's fiscal intergovernmental relations regarding local revenue mobilization, transfers, and accountability.

The Impact of the Reform

Given the gradual nature of the new incentives involved in the non-earmarked transfers formulas, the full impact of the reform on subnational tax effort was expected to materialize after a five-year framework, when the level of 2007 non-earmarked transfers becomes a minor fraction of the total non-earmarked transfers.⁸ Yet, a preliminary assessment after five years (in 2012) shows that the impact on subnational revenue so far has been relatively modest. Table 7.1 (near the beginning of the chapter) shows that overall subnational revenue increased by 0.2 percent of GDP after 2007—primarily due to the introduction of the new state fuel tax, equivalent to 0.12 percent of GDP, improvement in the collection of the payroll tax, and an increase in non-tax revenues of 0.05 percent of GDP—while levels of fiscal vertical imbalance remained at around 90 percent.⁹

One factor that may be obscuring the impact of the reform is the 2009 economic recession. In 2009, Mexico experienced its most profound economic downturn since the Great Depression, significantly undermining tax revenues at the federal and subnational levels. Such a context undoubtedly made revenue mobilization efforts more difficult and probably not optimal, at least until the economy recovered. Yet, as discussed below, the heterogeneity of the performance of the different tax handles suggests that factors beyond the cyclical downturn were at play. While some tax handles, such as the fuel tax and the payroll tax, have

⁸ By the end of 2012, the share of *non-earmarked transfers* distributed under the new formula was 30 percent.

⁹ This assessment coincides with that of the Ministry of Finance, which states in its 2006–12 report that, despite the reform, revenue mobilization efforts by states remained below their potential, and that going forward the challenge is to reduce tax evasion, particularly with small enterprises (SHCP, 2013).

performed rather well, revenue mobilization of other taxes directly affected by the reform are either unchanged, such as in the case of small enterprises, or are largely unexploited, such as in the case of taxes on car ownership and on alcoholic beverages.

The best-performing subnational tax handle has been the fuel tax, which has provided around 0.13 basis points of GDP of the additional revenue. As envisioned in the reform, this tax has become a major source of revenue for the states, second only to the payroll tax and the tax on car ownership. States have proactively reduced evasion of this tax, which is reflected in the significant decline in evasion between 2009 and 2010, and in keeping evasion at low levels (Figure 7.7).¹⁰ One reason for caution is the increase in tax evasion in 2011 and 2012, despite its relatively low levels, with estimated forgone revenue of 3.3 billion pesos. As a result, states have asked the federal government to collect the tax at the wholesale level to reduce tax evasion.

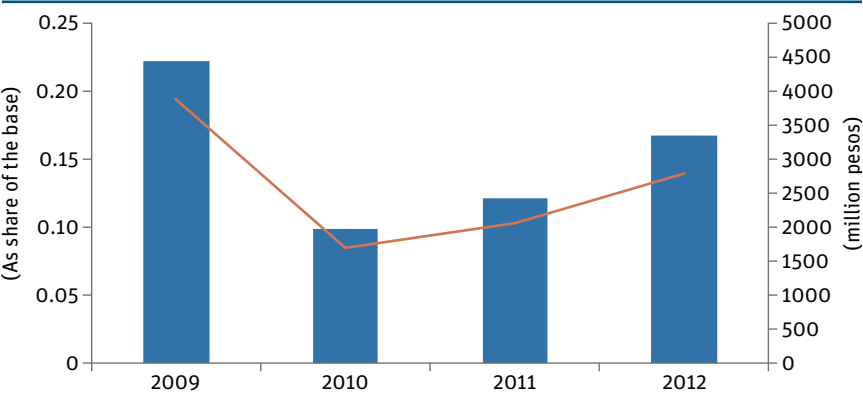
While mobilizing the revenue from this tax has been successful, its contribution to strengthening the fiscal linkage between services provided and costs is less clear. In Mexico the federal government sets the price of gasoline, and thus the new tax did not translate into higher prices for gasoline for the public, but in a larger subsidy on gasoline by the federal government.¹¹ As a result, the nature of this fuel tax is closer to that of an unconditional transfer than to a regional excise, thereby exempting states from any political cost and weakening the fiscal linkage between benefits received from state-level spending and the costs of that spending. The original vision for this 2007 reform was that the state fuel tax would be set up transitionally as an incentive only (until 2012), until the Constitution could be reformed to fully transform the tax into subnational revenue that would strengthen the fiscal linkage. Constitutional reforms did not materialize and the nature of the state fuel tax has remained closer to that of an unconditional federal transfer.¹²

¹⁰ To estimate the tax potential, we use the volume of national sales of diesel, regular, and premium gasoline as published by the Ministry of Energy and then multiply by the tax rates: 36 cents per liter for regular, 43.92 cents per liter for premium, and 29.98 cents per liter for diesel.

¹¹ In Mexico, the federal government has historically set gasoline prices, with the government subsidizing the difference between the public price and the market reference. Therefore, since the additional 36 cents per liter was not reflected in higher prices, they increased the amount of gasoline subsidies. For a detailed discussion of the mechanism for setting the price of gasoline, see SHCP (2012).

¹² The state fuel tax, as originally planned in the reform, expired in 2012; however, since then, Congress has included the necessary provisions in the *Federal Revenue Act to keep it functioning as an incentive*. For more details, see Federal Revenue Act for 2012 and 2013.

Figure 7.7 | State Fuel Tax Evasion



Source: Authors’ calculations based on data from the Ministry of Finance.

The fuel tax, in contrast to the tax on car ownership, has largely been underexploited by the states. As mentioned above, the 2007 reform transformed the federal tax on car ownership into a state tax, with a gradual transition that would be completed in 2011 when those states that chose to continue to use this tax were required to enact laws for a local version. Despite the fact that it represents the second most important tax revenue for states, by 2012, the majority had decided to repeal the tax, reduce its rate, or erode its base. Revenue from this tax has declined by 38 percent in real terms since it was transferred to states, with all but seven states witnessing a decline in real revenue. States could be raising 10 billion pesos just by maintaining the same real revenue collected when the tax was federal.

One explanation for the erosion of the tax on car ownership is competition with richer jurisdictions—those with larger tax bases—that lower rates to attract still more tax base (Bahl and Bird, 2008; Salmon, 2006). If this mobility were the main mechanism of tax competition, we would expect neighboring metropolitan areas to show more acute erosion of revenue from this tax because mobility costs would be lower. However, this does not seem to be the case. For instance, we would expect that the State of Mexico neighboring the wealthy Federal District would be particularly vulnerable to this type of mobility tax competition, but it has been the state where revenue from this tax has performed the best. In contrast, car owners in Chihuahua probably face the highest mobility costs—they would need to drive hundreds of miles to register their car in a neighboring state or vice versa—yet this state is one of the four that have completely repealed this tax.

To understand this lackluster performance, political economy considerations must be taken into account. The tax on car ownership was introduced in

the 1960s, and it was widely believed that it was meant to finance expenditures related to the 1968 Olympic Games in Mexico City (Ortiz Mena, 1998). After the Games, the tax on car ownership was not eliminated, however, its elimination has been constantly debated politically at different levels of government. After 2009, in essentially all regional electoral campaigns, eliminating the tax on car ownership became a hotly debated political issue, leading to a “race to the bottom.” For instance, in 2010, there were 12 gubernatorial elections, and in all of them at least one of the candidates used eliminating the tax as a political flag (Reveles Vázquez, 2011). The majority of states opted to erode the tax base by exempting vehicles up to a certain value, subject to fulfilling certain conditions, such as having no tax arrears with the state government.¹³

In a similar vein, the excise tax on alcoholic beverages has largely been unexploited. As mentioned above, one of the additional tax handles granted to the states in 2007 was the ability to tax alcoholic beverages, except beer, which remained an exclusively federal tax. Yet, by 2012, only two states—Baja California and Queretaro—of 32 had introduced the excise, forgoing significant potential revenue (INDETEC, 2012). Using the National Accounts, which shows the consumption of alcoholic beverages, and the Monthly Industrial Survey, to differentiate between beer and other beverages, we estimate that the base for the state excise on alcoholic beverages is 25.8 billion pesos. Thus, by introducing an excise of 10 percent, the states could be collecting additional revenue of 2.6 billion pesos.¹⁴

The impact of the 2007 reform on revenue from small enterprises has been underwhelming. As mentioned above, the reform created the Control Fund to reward those states with the best revenue growth from small enterprises. By 2011, this fund had grown to 22 billion pesos to be distributed according to revenue mobilization efforts. Yet, levels of evasion by small enterprises remained above 90 percent, largely unchanged from the pre-reform years.¹⁵ In 2010,

¹³ For a detailed review of the tax base and rates for each state, see INDETEC (2012).

¹⁴ The National Accounts estimate of 2011 total consumption of alcoholic beverages was 187.3 billion pesos without disaggregating the type of beverages. Following the methodology in ITESM (2009) using the National Institute of Statistics and Geography's industrial survey, we estimate that 77 percent of that consumption is beer, wine being 4 percent, and alcoholic beverages 19 percent. Since the National Accounts estimate is at market prices, we deducted the VAT and federal excise to obtain the estimated state-level tax base.

¹⁵ The evasion rates are based on ITESM (2011), which uses the National Survey of Occupation and Employment to estimate the number of small enterprises and their income. Their findings are consistent with a number of studies that have found evasion levels of around 90 percent (ITAM, 2006; ITESM, 2009).

overall tax evasion in the small enterprises regime was estimated at 96.2 percent, with only one state (Baja California) having tax evasion of less than 90 percent. The estimated forgone revenue amounts to 68.3 billion pesos.

The reluctance of states to exploit consumption taxes arose again in the discussion of the 2012 Federal Budget Law, when the federal government proposed granting the states the ability to implement a final sales tax at a rate of up to 5 percent. On the eve of discussion in the Finance Committee, the National Union of Governors publicly opposed the final sales tax, arguing that there should be no increases in taxes (Arteaga, 2011). The next day, the Finance Committee unanimously rejected the proposal (*Gaceta Parlamentaria*, 2011). This was the second time in less than 10 years that states rejected not only the introduction of a state-level sales tax, but even the prerogative to implement one. The tax was rejected despite the fact that it was among the main proposals of the National Finance Convention held between the states and the federal government in 2004.¹⁶

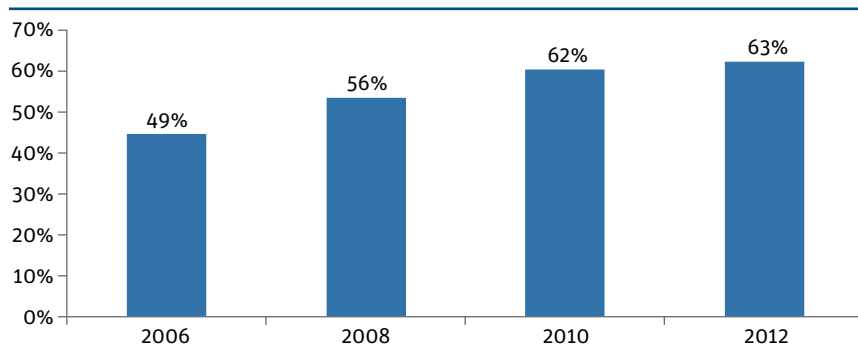
In contrast to the low level of fiscal effort in small enterprises, the tax on car ownership, and the excise on alcoholic beverages, revenue mobilization efforts on the payroll tax have generally improved. There is evidence that the medium-term trend of convergence with the exploitation of the payroll tax continues, as shown by the ongoing improvement of the tax effort, albeit at relatively low levels. Figure 7.8 shows the states' estimated fiscal effort in the payroll tax, calculated as the ratio of actual revenue to potential revenue. Potential revenue is derived from the total payroll in the National Employment Survey, assuming a generalized tax rate of 2.5 percent, which was the highest rate by the end of 2012.¹⁷ Based on this calculation, tax efforts improved by 14 percentage points between 2006 and 2012, with most of the improvement occurring between 2006 and 2010. By the end of 2012, the uncollected potential revenue was 24.6 billion pesos, which was largely concentrated in public sector workers.

In line with these results, various studies have found that the states' tax efforts on payroll taxes in general improved (Bonet and Rueda, 2012; Puente

¹⁶ The results of the National Finance Convention 2004 can be found at <http://www.indetec.gob.mx/cnh/>.

¹⁷ The National Employment Survey provides the number of salaried workers in the following wage brackets: less than one minimum wage (MW), more than 1 MW and less than 2 MW, more than 2 MW and less than 3 MW, more than 3 MW and less than 5 MW, more than 5 MW, and not specified. We assumed that the workers in the more than 5 MW bracket on average earned 14 MW based on the data from the Mexican Institute of Social Security; for those not specified, we assumed they earned the average wage. By multiplying the number of workers in each bracket by the average salary for the bracket, we obtained the payroll tax base, which we then multiplied by 2.5 percent to obtain the tax potential.

Figure 7.8 ■ Fiscal Effort in the Payroll Tax (actual revenue/potential revenue)



Source: Authors' calculations.

Treviño and Rodríguez Vargas, 2011), although significant levels of evasion continued because of exemptions of certain groups, such as state public officials and lack of payment by some federally-owned enterprises (Sánchez Gavito, 2011; Olivera Sánchez and Velázquez Beltrán, 2012).¹⁸ The improvement in the collection of the payroll tax is a sign that state tax administration capabilities have improved over the years.

In summary, during the post-reform years, in the aggregate, subnational revenue mobilization efforts have been relatively modest, however, there are marked differences in the exploitation of the different tax handles. On one hand, states have been reluctant to exploit the most visible or politically controversial taxes, such as the tax on car ownership, the small enterprises VAT, or the excise on alcoholic beverages. They have either eroded the base for the tax on car ownership or openly eliminated it, with a resulting reduction of around 40 percent in real revenue. Of 32 states, only two have enacted the regional excise tax on alcoholic beverages. The tax evasion level for the small enterprises VAT has remained well above 90 percent. Furthermore, the states again rejected the power to levy a final sales tax. On the other hand, tax efforts for the less politically costly tax handles or those with less uncertainty have been adequate or improving. States have welcomed the state fuel tax and have been proactive in keeping evasion levels low, with little political cost since the tax has no impact on the final price and

¹⁸ States complain that federally-owned enterprises do not regularly pay local payroll taxes, while the federal government complains that states do not pay the federal income taxes of state workers. As a result, over the years, there have been a series of efforts to regularize both payments.

resembles an unconditional transfer. Similarly, states have continued with their medium-term improvement in payroll tax effort. Since tax rates between 2007 and 2012 did not increase, this has been accomplished through improvements in tax administration, weakening the argument that state revenues are low because of inadequate tax administration capabilities.

The states' selectivity in own-source revenue mobilization efforts has involved substantial cost in terms of forgone revenue. In total, the estimated unexploited or underutilized tax bases amount to 108 billion pesos, close to 1 percent of GDP, even without considering the potential revenue from the rejected final sales tax. If these revenues were realized, states' own-source revenue would essentially double, reducing fiscal vertical imbalance levels to around 80 percent. Furthermore, by repeatedly rejecting the possibility of exploiting the large consumption tax bases, the states seem to be "condemning" themselves to high levels of transfer dependency. In other words, it appears the states want to remain large receivers and spenders of federal transfers. The states' choice to rely heavily on the payroll tax also has efficiency costs. Researchers have widely argued in the literature that payroll taxes reduce incentives for participation in the formal labor force (Levy, 2010), as well as labor productivity and output (Ahmad and Best, 2012).

Governors, Teachers, and Deputies: The Political Economy of Soft Budget Constraint

Hard budget constraint is that set of fiscal rules (written or unwritten) that force regional governments to internalize the full cost of their spending decisions, and therefore prevent the central government from financing unnecessary regional expenditures (Rodden, Eskeland, and Litvack, 2003; Rodden, 2006; Boadway and Shah, 2007). The key to hard budget constraint is the way the federal government uses intergovernmental transfers. When transfers are subject to regional government pressures or are used to bail out a troubled jurisdiction, even if the trouble is self-inflicted, a soft budget constraint is said to be in place. In contrast, if the federal government can resist the pressure to allocate more fiscal resources to an influential jurisdiction or bail out a troubled (even if self-inflicted) local government, a hard budget constraint is in place. In other words, the main issue is the ability of the central government to credibly commit itself to not bailing out, or granting additional transfers to regional governments that have spent or borrowed excessively. If the government can credibly commit to avoiding such spending, then local governments should be deterred from spending excessively and should have a strong incentive to strengthen their fiscal effort. In contrast, if a government cannot credibly commit to this, local governments have a strong incentive

to overspend and minimize their fiscal effort, since they expect the central government to rescue them from their fiscal problems. There are several factors that influence a government's ability to credibly commit to hard budget constraint.

Probably the most widely referenced way to make the government's commitment credible is by reducing the discretion it has over intergovernmental grants. If the central government has discretionary powers over these transfers, then regional governments have a strong incentive to press for any additional resources that the central government can provide. On the contrary, if the central government does not have discretionary powers, then the pressures of regional governments will usually be unsuccessful since the central government simply does not have the ability to provide additional resources. Hence, probably the most important lesson drawn from the literature on hard budget constraints concerns the clarity and predictability of the rules that govern intergovernmental transfers. With clear and predictable budget rules, the central government is better able to be unaffected by unsound subnational fiscal policies (Rodden, Eskeland, and Litvack, 2003; Boadway and Shah, 2007).

Table 7.3 shows the evolution of federal transfers in Mexico as share of GDP and classified by their level of discretion. Total transfers recorded a significant increase of about 1 percent of GDP after 2006, driven mostly by discretionary transfers, which increased by about 0.5 percent of GDP. By non-discretionary we mean transfers with pre-determined size and distribution based on formulas, such that the federal government only does a calculation, with no bargaining with the states involved.¹⁹ The 2007 reform made great strides in improving the incentives ingrained in these transfers—non-earmarked transfers and formula-based education transfers—which have remained at around their 10-year average of about 7 percent of GDP. By discretionary transfers we refer to those that are subject to negotiation between the federal government and the states either in size or distribution.²⁰ These transfers increased from 0.6 percent of GDP in

¹⁹ The funds classified as non-discretionary are the General Fund, Contributions Fund for Basic and Normal Education, Decentralized Fund for Health Services, Economic Incentives, Fund for the Strengthening of Municipalities and the Territorial Demarcations of the Federal District, Fund for Social Infrastructure, Fund for the Strengthening of the Federal Entities, Fiscalization Fund, Fund for the Promotion of Municipalities, Multiple Contributions Fund, Fund for IT Education, Fund for Extraction of Hydrocarbons, 0.136% Federal Revenue Participation, Additional Right for oil extraction, and Trust for infrastructure in the states.

²⁰ The funds that are classified as discretionary are the Public Security Contribution Fund, Education Agreement, Water Agreement, Agriculture Agreement, Salary provisions, and Reallocation Agreement.

Table 7.3 Transfers by Level of Discretionality (in percent of GDP)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Non-earmarked funds	4.2%	4.1%	4.1%	4.2%	4.4%	4.1%	4.7%	4.2%	4.3%	4.5%
Primary education	2.3%	2.2%	2.1%	2.2%	2.1%	2.0%	2.0%	2.2%	2.1%	2.0%
Health	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
A. Non-discretionary formula-based transfers	6.9%	6.8%	6.6%	6.8%	6.8%	6.5%	7.1%	6.8%	6.9%	6.9%
Education related	0.4%	0.3%	0.4%	0.4%	0.4%	0.6%	0.8%	1.0%	1.0%	1.0%
Other	0.2%	0.2%	0.1%	0.2%	0.2%	0.2%	0.3%	0.2%	0.2%	0.2%
B. Discretionary transfers	0.6%	0.5%	0.5%	0.6%	0.6%	0.8%	1.1%	1.2%	1.2%	1.2%
Total transfers (A+B)	7.5%	7.3%	7.1%	7.4%	7.4%	7.3%	8.2%	8.0%	8.1%	8.1%
Percent of discretionary transfers (B/(A+B))	7.4%	7.0%	7.5%	8.4%	8.0%	10.6%	13.0%	15.6%	15.3%	14.3%

Source: Ministry of Finance.

Notes: The classification between discretionary and non-discretionary is based on the Fiscal Coordination Law. Funds that are considered non-discretionary include the General Fund, the Contributions Fund for Basic and Normal Education, and the Decentralized Fund for Health Services.

2006 to 1.2 percent of GDP by 2011. The lion's share of discretionary transfers is spent on education, reflecting bilateral accords between the federal Ministry of Education and state governments to finance educational spending.

The evolution of transfers suggests a softening of the federal government's budget constraint in relation to the states, which have successfully extracted large additional discretionary transfers. By 2011, around 14 percent of total transfers were discretionary, as opposed to 8 percent in 2006. These numbers suggest that it is rational for subnational governments to invest time and resources in budgetary negotiations with the federal government rather than in mobilizing own-source revenues. Two key factors are at play in this ability of state governments to extract ever-increasing transfers: (i) the key role played by governors in the National Congress and (ii) decentralized education spending.

It has been widely argued that under hegemonic conditions federal deputies did not respond to voters' demands, but rather to the preferences of national party leaders, principally each president in turn (Nacif, 2002; Weldon, 2002). However, under the new democratic electoral conditions achieved in the 1990s, and the resulting fragmented and pluralist Congress, deputies' princi-

pals changed, with governors playing a key role. Governors became fundamental in deciding who wins majority seats in their states, and who will return to the local arena to continue his or her political career. Because of this control over the selective resources necessary to a successful political future, deputies are tied closely to the preferences of their governors (Magar, Romero, and Timmons, 2009; Langston, 2010). Governors have successfully affected national legislation through the votes of their states' delegates. In particular, states with large contingents in the National Congress usually are more successful at winning federal funds in annual budget rounds (Rosas and Langston, 2011).

Governors also became critical in approving reforms. Between 2007 and 2008, the Calderon administration obtained Congress' approval of important reforms, such as the Fiscal Reform, the Public Sector Pensions Reform, and the Energy Reform, despite facing a divided Congress, largely through pragmatic negotiations that included additional transfers to the states and electoral reform (Magar and Romero, 2008; Magar, Romero, and Timmons, 2009; Fernandez, 2013). In short, the new electoral reality made governors key power brokers in the national legislative process, with strong influence on the annual budget rounds and on the approval of key reforms. Not surprisingly, governors appeared to have made use of this influence to extract additional federal transfers.

A second factor that is widely mentioned as potentially softening budget constraint is decentralized educational spending. There is generalized concern about the transparency and accountability of education transfers in Mexico (ASF, 2010; Fernandez, 2013; Muñoz Armenta and Echenique Vázquez, 2013). Subnational spending on education is characterized by opacity and lack of reliable indicators on even the most basic parameters, such as the number of active teachers or students. For example, as explained by Fernandez (2013), it is common practice that the principal of a school misreports the number of students (e.g., double counting the students) so he or she can justify the demand for double funding. While states may suspect that several of these statistical reports are incorrect, they are not keen to correct them because federal funds increase if they report more students. Opacity in the numbers of students thus results in mutual benefit for the teachers union and the subnational authorities. The result of this asymmetry of information is that the nature of the Contributions Fund for Basic and Normal Education transfer, despite being formula based, becomes more subjective and less transparent given the opacity of its main indicators.

An additional problem is the two-stage wage negotiation that happens between the federal government, the teacher's union, and the states. In the first stage, the federal government agrees with the union on a national increase in the teachers' wages and benefits. After this round is concluded, typically around

mid-May, a second bilateral stage begins between the union and each state where the federally agreed upon increase effectively becomes a floor. The result of this second round of negotiations is only fully known to the states and the union, although they expect the full wage bill to be financed through bilateral accords that complement the formula-based transfers (Fernandez, 2013). This complex game characterized by asymmetries of information grants a wide array of possibilities to states and the union to behave opportunistically in extracting additional transfers from the federal government. The federal government has attempted to reduce these asymmetries by setting information requirements in annual budgets. For example, in the 2010 budget, a provision was included to require the Ministry of Education to reconcile with the states a database that includes the number of active teachers, teachers commissioned to do political work, and the number of students. Despite, these efforts, by 2012, opacity was still prevalent in subnational educational spending.

Another factor that may have contributed to softening the budget constraint is the lack of transparency of the subnational borrowing that impeded effective market regulation. Despite a series of institutional reforms, by the year 2000, subnational borrowing was still characterized by soft budget constraint. In this context, the Mexican authorities faced two distinctive options to impose hard budget constraint: (i) enhance market discipline, or (ii) impose fiscal rules. In 2000, Mexican authorities opted to enhance market discipline by attempting to eliminate the market distortions that prevented capital markets from imposing discipline on subnational governments. The main objectives of this system were to reduce the expectation of a bailout and to enhance credit market regulation by leaning on the international credit rating agencies.²¹

The federal government, in order to credibly commit to its refusal to bail out subnational governments, reduced its involvement in borrowing operations at the subnational level by establishing a trust fund–intercept model. Under the previous arrangement, the federal government was obliged to respond to the claims of subnational government creditors. Under the new scheme, the participation of the federal government was limited to following instructions from subnational governments to deposit non-earmarked transfers into a trust account. This meant that the subnational government's creditors could no longer hold the federal government accountable for the unpaid debt, since only the subnational governments can ask that the transfer be made.

²¹ For a detailed discussion of the regulation of subnational debt, see Giugale and Webb (2000).

A key ingredient of the enhanced market discipline sought by the reform was adequate information about subnational borrowing. In this context, the new scheme established that, for subnational governments to use the trust fund intercept, they had to register their borrowing in the Public Registry at the Ministry of Finance and obtain approval from their local Congress. Furthermore, states were required to be current in their debt obligations with the development banks. Additionally, and in order to make the registration appealing, unregistered loans were automatically risk-weighted by the regulators two steps more strident than the rating implies. This means that states using own-source revenue as collateral would still find registering their debt attractive since they could then obtain reasonable prices for their loans.

Between 2000 and 2008, enhanced market discipline seemed to be working well, as subnational debt remained below its 2000 level of 2 percent of GDP, with a slight declining trend. However, after 2008, there was a rapid increase in subnational debt, reaching almost 3 percent of GDP by 2012, which at least partially reflects failures in the market discipline sought by the 2000 reform. Subnational debt in Mexico remains only a fraction of that of other federal countries and, although it does not seem to be currently a source of macroeconomic concern, by 2012, the debt-sustainability of some states was at risk, with an across the board deterioration on the fiscal stance of states.²² A key factor behind the rapid increase was the lack of transparency in subnational borrowing, as a growing share of debt was not registered at the Ministry of Finance. Since its creation, the Public Registry has become the main source of subnational debt data followed by most financial actors; therefore, for the market to provide adequate discipline to subnational borrowing, its completeness and reliability is crucial. Nonetheless, by mid-2011, the Ministry of Finance realized that states were underreporting around 16 percent of their total debt. The most extreme case was the state of Coahuila, whose true debt obligations were 2.8 times larger than those reported to the Ministry of Finance.²³ The lack of adequate information undermined the ability of the market to prevent excessive debt build-up and, at least in the short term, allowed states to finance growing expenditures without having to increase their tax efforts.

In summary, the growing political relevance of governors, an incomplete and murky decentralization of educational spending, along with a lack of transparency of subnational borrowing seem to be key factors in softening budget

²² For a detailed assessment on the debt build-ups, see López Córdova and Rodríguez Puebla (2012).

²³ The analysis was done by comparing the data reported to them by the state governments with the data reported to the financial regulators by the banks.

constraints. The states have been able to obtain more discretionary transfers primarily through bilateral accords in principle destined to finance educational spending, but characterized by opacity. Furthermore, the opacity of the indicators used in the formula for the Contributions Fund for Basic and Normal Education make the nature of this transfer less transparent and more subjective. Likewise, some states circumvented market discipline by hiding the true extent of their debt liabilities. In this context, the states' incentives to engage in politically costly revenue mobilization efforts are meager.

Panel Analysis

This section discusses an econometric model we used to assess whether an increase in federal transfers to subnational governments is correlated with changes in subnational government revenue mobilization in Mexico. To this end, we used a balanced panel of Mexican states spanning the years 2002 to 2012. The Ministry of Finance produced data regarding transfers and subnational government debt, while local revenue (tax and non-tax) comes from the National Institute of Statistics and Geography. All nominal variables were deflated using the national consumer price index constructed by the institute. The panel also included non-fiscal variables thought relevant for understanding revenue mobilization. The non-fiscal variables used in the regressions below were the number of formal workers registered in the Mexican Institute of Social Security, whether the year of an observation coincided with an election year in the state, the number of congressmen from the state affiliated with the president's political party, and a dummy variable to reflect whether the governor and the president belonged to the same political party. The formal workers data came from the National Institute of Statistics and Geography; the electoral year, congressmen, and political alignment data came from the electoral database of the Center for Development Research (Centro de Investigación para el Desarrollo, A.C., or CIDAC) and were complemented with data on the National Congress website.

In our empirical analysis we distinguished between non-earmarked transfers, formula-based transfers, with little room for discretion, and earmarked transfers, including education and health transfers (formula-based) and some discretionary transfers, which we referred to as reassignments. Distinguishing between these two types of transfers is likely to be relevant, as an increase in non-discretionary transfers might not imply a softening of the budget constraint. If local politicians are forward looking and have good forecasts of the variables affecting the transfers, changes in non-discretionary transfers are for the most part expected and therefore incorporated in the *ex ante* budget constraint. Discretionary transfers

are usually the result of a political bargaining process, and therefore more difficult to forecast and incorporate in the ex ante budget constraint.

To estimate whether higher transfers are associated with higher or lower revenue mobilization, we estimated fixed effect panel regression models of the form:

$$R_{it} = \alpha_0 + \alpha_1 T_{it} + \alpha_2 X_{it} + u_i + u_t + \epsilon_{it} \quad (1)$$

where the α 's are the coefficient of interest, R_{it} are real changes in the sum relevant revenue variables, T_{it} are real changes in transfer variables, and X_{it} are other variables that might affect income mobilization. u_i and u_t represent the local government and time fixed effects, respectively. ϵ_{it} is the error term.

Here we focused only on the states' own-source revenues, which include tax and non-tax revenues.²⁴ We estimated equation (1) for each of these components separately instead of local revenues as a whole because the determinants of the categories might be different. In particular, non-tax revenues are likely to be "demand-driven" as citizens present themselves to the government to "consume" some public service for a fee.

The results shown in Table 7.4 indicate that determinants of tax and non-tax revenues are indeed different. Most variables commonly thought to be important determinants of the mobilization of non-tax revenues do not show significant correlation (see the first two columns). The table does not show evidence of significant correlations between variables related to the political context and non-tax revenues mobilization. Electoral years do not have a significant effect on non-tax revenues. Similarly, the number of congressmen in the president's party and whether the governor belongs to that party do not have a direct effect on non-tax revenues. Variables related to the condition of the local economy (e.g., changes in federal investments and in the number of formal workers in the state) and the relative level of debt at the beginning of a year are not significantly correlated with changes in non-tax revenues. Finally, higher federal transfers do not seem to induce fiscal laziness on non-tax revenues. When we look at changes in either transfers as a whole (first column) or changes in non-earmarked and earmarked transfers (second column), we do not find a significant correlation between transfers and non-tax revenues.

²⁴ The non-tax revenues measure includes income from rights, products, exploitations, and contributions. The tax revenues measure includes the payroll tax and some other local taxes, such as lodging and personal property. The Federal District's tax revenues include property tax.

Table 7.4 | Changes in Revenues Mobilization

Dependent variable	Non-tax revenues (total transfers)		Non-tax revenues (earmarked and non-earmarked transfers)		Tax revenues (total transfers)		Tax revenues (earmarked and non-earmarked transfers)	
	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
Transfers (ch)	0.26	0.17			0.02	0.05		
Non-earmarked transfers (ch)			0.24	0.17			0.06	0.05
Earmarked transfers (ch)			0.33	0.26			-0.21**	0.09
Federal investment (ch)	-0.04	0.04	-0.05	0.04	0.04**	0.01	0.04***	0.01
Debt/GDP at beginning of year (log)	-0.22	0.38	-0.19	0.35	-0.27*	0.13	-0.35**	0.16
Formal workers (ch)	4e-5	6e-5	4e-5	6e-5	5e-5***	1e-5	5e-5***	1e-5
Electoral year	-2.34	2.43	-2.30	2.43	-0.46*	0.26	-0.58*	0.29
Congressmen	-0.02	0.10	0.01	0.10	-1e-3	0.03	0.03	0.05
Governor	-1.83	1.55	-1.79	1.59	0.34	0.34	0.20	0.41
Constant	-0.88	2.34	-1.16	2.82	-1.25	0.79	-0.45	1.03
Year fixed effects	Yes		Yes		Yes		Yes	
R-squared	0.28		0.28		0.41		0.43	
N	310		310		310		310	

Source: Authors' estimates.

Notes: ***=significant; **=5 percent; *=1 percent. (ch) = real change in the variable. Robust standard errors are reported.

Results for tax revenues are different (see the last two columns of Table 7.4). Electoral years seem to have a significant effect on tax revenues, with tax collections falling by 58,000,000 pesos (2011 real pesos) for an average state in an election year, which is roughly 4 percent of the average tax revenue in the period. As with non-tax revenues, the number of congressmen in the president's party and whether the governor belongs to that party do not have a direct effect on non-tax revenues. Meanwhile, variables related to state-level economic activity have significant effects on tax revenues. Higher federal investment expenditures in a state lead to a significant increase in tax revenues. In the average state, for every dollar of increase in federal real investment, the state tax collections increase by 5 cents, probably due to the increase in economic activity caused by

the higher investments. Regarding employment, the increase in formal employment leads to an increase in tax revenues, as state governments collect the payroll tax. We found that for every extra worker in the economy, tax revenues in an average state increase by 46 real pesos.

Results also indicate that higher initial levels of indebtedness, in relative terms, are negatively correlated with changes in real tax revenues. Several mechanisms may be behind this negative correlation. As argued above, the lack of transparency in subnational borrowing weakened market discipline and allowed some states to over-borrow. The build-up of unsustainable debt may have led some states to expect a federal government bailout in the future, thus having induced them to reduce or at least delay their tax collection efforts. This mechanism is consistent with the presence of a soft budget constraint. Whether this correlation is maintained over time is crucially dependent upon whether the federal government validates this expectation and bails out indebted states.²⁵ Another factor that may be at play is whether the private sector expects the federal government to bail out a state. If the federal government is not expected to bail out a state, the private sector would forecast an increase in that state's taxes in the future. This could encourage the private sector to divert economic activity to another state, reducing the state's tax collections. Therefore, although initial evidence suggests that weakened market discipline for subnational borrowing may have softened the budget constraint, a more complete econometric model would be necessary to distinguish between these two potential mechanisms.

Regarding the relationship between transfers and tax revenues, our results suggest that some types of transfers might be associated with fiscal laziness in collecting taxes. Changes in transfers as a whole (third column) do not show a significant correlation between transfers and tax collections. This result is not surprising, as non-earmarked transfers are the lion's share of transfers and these are formula based. When the equation is re-estimated distinguishing between non-earmarked transfers and earmarked transfers, we find that non-earmarked transfers are not significantly correlated with tax revenues, but that earmarked transfers show a significant negative correlation. In an average state, for every extra real dollar in earmarked transfers, tax revenues fall by 15 cents on average.

Given the above result, it is worth exploring which components of earmarked transfers are more prone to being correlated with changes in tax revenues. As previously noted, some earmarked transfers are formula based, while others are

²⁵ In recent years, the federal government has not bailed out states with debt sustainability problems, which forced these states to implement fiscal consolidation programs.

Table 7.5 | **Changes in Tax Revenues Mobilization**

Dependent variable	Tax revenues (excluding education transfers and reassignments)		Tax revenues (excluding health transfers and reassignments)		Tax revenues (excluding health and education transfers)		Tax revenues (including all variables)	
	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
Non-earmarked transfers (ch)	0.05	0.05	0.06	0.06	0.04	0.04	0.04	0.04
Health transfers (ch)	-0.16	0.43					-0.15	0.39
Education transfers (ch)			-0.15**	0.07			-0.03	0.10
Reassignments (ch)					-0.39**	0.19	-0.37	0.23
Federal investment (ch)	0.04**	0.02	0.04***	0.02	0.05***	0.01	0.05***	0.02
Debt/GDP at beginning of year (log)	-0.27*	0.14	-0.32**	0.15	-0.29*	0.16	-0.31*	0.15
Formal workers (ch)	5e-5***	1e-5	5e-5***	1e-5	4e-5***	1e-5	4e-5**	1e-5
Electoral year	-0.54*	0.29	-0.52*	0.29	-0.61**	0.29	-0.60**	0.30
Congressmen	-0.02	0.03	-0.02	0.05	-0.03	0.06	-0.03	0.05
Governor	0.29	0.35	0.30	0.40	0.22	0.39	0.20	0.39
Constant	-0.86	0.78	-0.86	0.96	-0.71	1.04	-0.62	0.95
Year fixed effects	Yes		Yes		Yes		Yes	
R-squared	0.43		0.43		0.47		0.47	
N	310		310		310		310	

Source: Authors' estimates.

Notes: ***=significant; **=5 percent; *=1 percent. (ch) = real change in the variable. Robust standard errors are reported.

discretionary. To that end, we re-estimated equation (1) distinguishing between the different components of earmarked transfers.

When we introduced the different components one at a time (see Table 7.5, first to third columns), we found that health related transfers are not significantly correlated with tax revenue collections but that education transfers and reassignments are correlated. The lack of significant correlation with health transfers might have been expected, as these transfers are formula-based and therefore less subject to discretion. The education transfers are also formula-based but, as

discussed earlier in this chapter, the misreporting and lack of control of the data provided to national authorities have de facto made these transfers discretionary.

Finally, reassignments, the most discretionary component of earmarked transfers, have a large and significant negative correlation with tax revenues. Our evidence suggests that, for every extra real peso in reassignments, for an average state, tax revenues fall by, on average, 39 cents. When we introduced all transfers simultaneously in the estimation, the correlations were no longer significant, probably because of the correlation between education transfers and reassignments. When both variables were simultaneously included in the equation, there was a relatively large decline in the coefficient for education transfers. Meanwhile, the coefficient for reassignments did not fall much and it was marginally significant at an 11.8 percent confidence level.

The results presented here are consistent with the perception that the increase in discretionary transfers and the opacity problems with the Contributions Fund for Basic and Normal Education and subnational borrowing have softened the states' budget constraints and have led to lower efforts to mobilize own-source revenues.

Hardening the Budget Constraint: The Road Forward

Despite several attempts to enhance revenue mobilization efforts by subnational governments over the past decade, the own-source revenues of the states remain stable at around their long-term average of 1 percent of GDP. During these years, states have left largely unexploited some significant tax handles, such as the tax on car ownership, or rejected (twice) additional handles, such as the final sales tax. A key factor that seems to be central to this subdued fiscal effort is the ability of states to obtain transfers from the federal government, particularly those linked to education. It follows that future efforts to enhance revenue mobilization at the state level will be more likely to succeed if they reduce the ability of states to obtain transfers at the margin. Hardening the budget constraint should be the priority in the short term since it will provide states with incentives to use the tax handles they have underexploited.

The Mexican federal government has again acknowledged the need to continue its reform efforts to increase subnational revenues, and included in its Fiscal Reform of November 2013 a set of reforms of the federal fiscal pact.²⁶ Analyzing the scope and consequences of the recent reform in Mexico is beyond the scope of this chapter; nonetheless, it is important to emphasize a critical change made in financing primary education workers as established in the *Fiscal*

²⁶ For a review of the current federal government's perspective on the level of subnational revenues, see the 2013 Fiscal Reform proposal at www.hacienda.gob.mx.

Coordination Law: the recentralization of educational spending. This reform establishes that, from 2015 forward, the federal Ministry of Education will manage and pay the teacher payroll. Furthermore, this ministry will be the only entity entitled to negotiate with the teachers' union.

Another reform that may prove crucial in hardening the subnational budget constraint is the *Financial Discipline of Federal and Municipal Entities Law*. This initiative, which is currently under discussion, contains a set of procedural and numerical rules, that, if approved, would limit the ability of states to over-borrow. The proposed law's key features include limiting to 75 percent the amount of non-earmarked transfers that could be used in the trust fund–intercept mechanism, establishing the requirement to have all financial liabilities registered at the Ministry of Finance, and requiring the National Congress to approve any new borrowing. Additionally, the *General Accounting Law* was reformed to include specific requirements that the states and the federal government report key data on educational spending, such as the number of teachers and students.²⁷ These reforms directly address the issues that most likely undermine subnational incentives to collect taxes. If, as expected, these latest reforms significantly harden the states' budget constraint, a key milestone in the long road to improving Mexican fiscal federalism will have been achieved.

Providing the states the right incentives to use their tax handles is clearly the short-term priority. Going forward, however, further reforms may be required to increase subnational tax bases while minimizing potential distortions. Among the main options for further strengthening subnational tax handles would be surcharges on national personal income tax. As argued in the first chapter, surcharges on personal income tax have the advantages of taxing personal incomes (relatively low mobility of the tax base and low exportability), reducing administration and compliance costs, (which are high in personal income taxation), and visibility, thus increasing political acceptability. Implementing a surcharge on the personal income tax becomes more attractive in the context of the 2013 fiscal reform at the federal level, which strengthens the federal personal income tax by capping deductions and eliminating the exemptions on interest, dividends, and capital gains. This reform is expected to increase the yield of the federal personal income tax to 3.2 percent from 2.6 percent of GDP over three to five years (Díaz de Sarralde, 2013). Estimates show that each percentage point of the potential surcharge would provide around 0.15 percent of GDP to the states, implying that a surcharge of 2 percentage points on the personal income tax would yield more

²⁷ The reform can be found at http://www.apartados.hacienda.gob.mx/presupuesto/temas/ppef/2014/ingresos/12_lcf_lgcf.pdf.

revenue than the payroll tax (Díaz de Sarralde, 2013). Furthermore, states could use some of the additional revenue from this surcharge to reduce or phase out the payroll tax, reducing administrative costs.

Since the early 2000s, Mexican federalism has undergone a series of important reforms intended to increase revenue mobilization efforts at the state level, mostly by enhancing their tax handles and the incentives ingrained in the non-earmarked transfers formulas. So far the results of these reforms have been limited, most likely due to political economy factors that weaken the states' incentives to mobilize revenues. Yet, the 2013 reforms seem to address the main issues softening subnational budget constraints, making it reasonable to expect stronger revenue mobilization efforts by subnational entities in the short to medium term. The road to improving the design and incentives of the Mexican fiscal pact has been long, but the accumulation of a series of important reforms is likely to yield significant results in the coming years.

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Black Gold Effect: Venezuela's Natural Resource Dependency

8

THE INCREASE IN OIL PRICES TO HISTORICAL LEVELS IN THE MID-2000S AND THEIR SUBSEQUENT VOLATILITY IN RECENT YEARS DEMONSTRATES THE DELETERIOUS effects of such volatility on the macroeconomic policies and performance of several major oil-producing countries. Clearly there is a need for policy and institutional reforms to mitigate such effects.¹ Venezuela provides a good illustration of this need because volatility has been a constant feature of its macroeconomic variables, mainly due to its reliance on oil.

Macroeconomic volatility is reflected in national revenue and, given current intergovernmental arrangements, in the revenue of the subnational governments as well. Since about 70 percent of subnational revenue comes from revenue sharing and other transfers from the central government, subnational authorities face problems similar to those of their national counterparts. They are, however, in a worse position to absorb such volatility because they have less access to financing sources, yet they are responsible for delivering essential social services, especially education and health. Thus, reducing the dependence of subnational budgets on the volatile transfers from the center by mobilizing less cyclically sensitive own-source revenues could have significant benefits for fiscal management and the delivery of social services. It would also result in increased accountability of subnational officials to their electorates. Finally, higher own-source revenues at the subnational level would help raise the overall non-oil tax ratio, which in Venezuela is very low compared to countries at a similar level of development.

In Venezuela, decentralization can be viewed as a political response to the loss of legitimacy of the national political system. The weakening of an economic system based almost exclusively on the distribution of oil revenue, and the lack

¹ This chapter is an edited and abridged version of Rios, Ortega, and Scrofina (2012).

of representativeness of traditional national political parties, paved the way in the late 1980s for local governments to have an increased role. Although unintended, the activation of the federal system, with the direct election of governors and the creation of mayors in 1989, was instrumental in reshaping political institutions, particularly political parties. Even after the 1999 constitution was approved—which increased the central government's powers—the main political features of the decentralization process remained basically unchanged.

Indeed, the increased political competition brought about by the possibilities of re-election of local authorities, the changes of rules for electing national legislators, and the decentralization process that followed, all played an important role in the collapse of the traditional party system. Before decentralization, the party system was very centralized, and parties controlled almost all levels of government as well as key posts in the public administration. Once the oil rent distribution system collapsed in the mid-1980s, it was increasingly difficult for parties to maintain their grip on the primary political institutions, and pressures from civil society brought about several political reforms, including the above-mentioned direct election of governors and the creation of mayors. These changes allowed several intermediate- and local-level leaders to emerge, undermining and eventually weakening the bipartisan system, which by that time had lost legitimacy.

However, fiscal decentralization has not accompanied political decentralization. As mentioned, the bulk of subnational governments' resources come from mandatory transfers from the central government. On average, between 1998 and 2007, own-source revenues accounted for only 4 percent of the states' (intermediate level of government) total revenues and 51 percent of the municipalities' (local) revenues. However, among municipalities, there are enormous differences; while some can generate up to 98 percent of their revenue—primarily cities with important industrial and commercial activities—rural municipalities depend almost exclusively on central government transfers.

Another key problem is the fiscal sustainability of public services transferred from the central government to subnational administrations. Although the central government has transferred resources previously included in the national budget, there are no operational criteria to determine whether those resources are enough to maintain efficient levels of public services. In recent years there is evidence of a marked deterioration in the public services transferred to the regions due to a lack of funding, mainly in health and education.

There are also legal and constitutional restrictions on the way subnational governments obtain their resources. By law, states cannot levy taxes and have no borrowing authority. The 1999 constitution provides some taxing powers to

municipalities, mainly on property and local industry and services activities, but the capacity and incentives to efficiently use these fiscal tools vary substantially across municipalities, contributing to excessive disparities in the level and quality of goods and services they provide.

More recently, a recentralization trend has emerged. The central government has retaken the operations of ports and airports, which were previously decentralized; has changed laws to redirect smaller transfer funds such as the Intergovernmental Fund for Decentralization and the Special Allocations Law² to subnational governments politically aligned with the center; and has reduced the role of the local police. Moreover, legislation was recently approved to create communes that could undermine the autonomy and authority of states and municipalities. In addition, due to the declining trend of oil prices, increasing off-budget expenditures, and underestimating of revenue, central government transfers to the regions have declined, making the delivery of public services at the local level even more difficult.

In this chapter we discuss the causes and consequences of the substantial fiscal dependence of states and municipalities in Venezuela, and the political economy process embedded in the interaction between the central and subnational governments. It also explores options to increase states' and municipalities' own-source revenues, improve the current intergovernmental transfer system, and reduce horizontal imbalances.

In the next section we describe the process of decentralization in Venezuela. The following section discusses the intergovernmental transfer mechanism and its effects on subnational revenue volatility. We then briefly review various sources of subnational own-source revenues and attempt to empirically assess the efficiency of municipalities in collecting their own-source revenues. We then analyze the fiscal dependence of subnational governments and its determinants. The next section explores options to mobilize revenue and improve the transfer mechanism. Finally, we offer some conclusions and recommendations.

² The Intergovernmental Fund for Decentralization (*Fondo Intergubernamental para la Descentralización*, or FIDES) is funded by 15 percent of the revenue from the VAT. It is distributed as follows: 42 percent to states, 28 percent to municipalities, and 30 percent to communal councils. Subnational governments must apply to obtain funding by presenting investment projects. The *Special Allocations Law* (*Ley de Asignaciones Económicas Especiales*, or LAEE) is funded by 25 percent of tax revenue after deducting the amount of the constitutional transfer. It is distributed in the same way as the Intergovernmental Fund for Decentralization.

The Decentralization Process in Venezuela

In its first constitution of 1811, Venezuela adopted a federal system of government inspired by the U.S. constitution. However, during most of the nineteenth century, the country was characterized by constant conflicts among regional leaders, which eventually resulted in a process of centralization in order to consolidate a national state. For most of the first part of the twentieth century, several autocratic regimes, supported by the exploitation of newly discovered oil, ruled the country. It was only in the second part of the twentieth century that democratic institutions started to develop, mainly after the end of the last military dictatorship in 1958, under the political pact known as the *Punto Fijo Pact* (*El Pacto de Punto Fijo*) and the adoption of the 1961 constitution (Brewer-Carías, 2004).

In 1983, a large currency devaluation, brought about by declining oil revenue, ended a long period of economic and political stability. Being unable to continue with the traditional mechanisms of distributing oil revenue, the political institutions that had functioned well under the *Punto Fijo Pact* collapsed, and mounting social pressure led to a revision of the structure of the state. A commission, created in 1985 to reform the state, proposed several measures to strengthen democratic institutions and the legitimacy of government in the eyes of citizens. Among these were measures toward political decentralization:

- direct election of state governors, who at the time were appointed by the president
- creation of mayors as the highest authority at the municipal level
- separation of the legislative and executive branches of municipal government.
- changes in the electoral system to allow direct election of congressional and council representatives

These progressive proposals were enacted into law between 1989 and 1993, with considerable popular support and despite fierce opposition by the political establishment (De la Cruz, 2004). The initial strategy for decentralization was conceived in three successive steps: political, administrative, and fiscal (Lalander, 2006). Accordingly, the steps for political decentralization were followed by laws (the Organic Law on Decentralization and the Organic Law on Municipalities) that defined the assignment of spending responsibilities to the different levels of government.

In general, these laws assigned to the central government those responsibilities that were considered to have externalities (or considered “strategic” by

the government), while states and municipalities were given the responsibility of delivering basic local services. As for concurrent responsibilities, such as education and health, the Law on Decentralization stipulated that their transfer to a state would be subject to the approval of both the state's legislature and the national senate. This process guaranteed that the transfers would be thoroughly negotiated among key political actors. In fiscal terms, the law stipulated that, with each concurrent or exclusive service transferred to the states by the central government, the resources allocated in the national budget for that service would also be transferred to the states. However, there were no operational provisions for the calculations of these transfers, and they were very volatile because they depended on variable fiscal revenue. Moreover, the laws left unclear which specific services each level of government should deliver. This led to confusion, asymmetries, and the need for constant negotiations between the central government, the states, and the municipalities.

Nevertheless, the decentralization process took off. During 1989–93, the first term for newly elected governors and mayors, 12 services came under concurrent competency while states were granted 18 exclusive competencies. By the end of 1992, negotiations were taking place to transfer from the central government 83 concurrent and 32 exclusive competencies (De la Cruz, 2004). In 1993, in response to the shortcomings of the above-mentioned laws, several coordination mechanisms were created to facilitate the decentralization process. Also, the Intergovernmental Fund for Decentralization was formed, with the participation of all levels of government, to finance projects of mutual interest. This Fund was mainly financed by a mechanism to co-share the value-added tax (VAT).

The decentralization process has clearly slowed down since 1994, particularly after the enactment of the 1999 constitution, which, although it maintained the federal character of the country, included several articles that curtailed the autonomy of states and municipalities. Specifically, it abolished the senate, suppressing the equal representation of the states in the national legislature, and granted the central government power to regulate public services provided by the states and municipalities. Furthermore, several services that had previously been decentralized, such as the administration of ports, airports, and highways, were recentralized. There were also attempts to recentralize health, education, and law enforcement services. These policies can be viewed as shifting from decentralization to a process of deconcentration directed from the central government, undermining the power of governors and mayors, and giving more responsibilities to other civil society organizations such as communal councils (Delgado, 2008).

Transfers to Subnational Governments

As mentioned in the introduction, transfers from the central government are the main source of financing for subnational governments in Venezuela. In 2010, budgeted³ central government transfers were equivalent to 20.4 percent of the official budget⁴ and to 4.2 percent of GDP. Transfers are more important for states than for municipalities. States receive 81 percent of total transfers, while municipalities receive 19 percent, as shown in Table 8.1. While municipalities are the more important legal entity in the constitution,⁵ states receive much greater contributions from the central government. This is partly compensated by the fact that municipalities have the autonomy to collect taxes.⁶ Transfers are of two types: mandatory (formula-based) and discretionary (Table 8.2).

Mandatory Transfers

There are two main types of mandatory transfers: a general revenue-sharing mechanism—the constitutional transfer—and an equalization mechanism—the Interregional Compensation Fund. The constitutional transfer is defined⁷ as a maximum of 20 percent of ordinary revenue⁸ included in the central government budget to be allocated to subnational governments. Of the total, 80 percent is assigned to states and 20 percent to municipalities. The constitutional transfer is distributed among states and municipalities on the basis of two criteria: equality and population. Of the 80 percent destined to the states, 30 percent is divided equally among all 23 states, while the remaining 70 percent is divided according to the states' populations. Similarly, of the 20 percent destined to municipalities,

³ State and municipal data from the National Budget Office are used throughout this chapter. These data refer to budgeted revenue, aggregated by the National Budget Office yearly from the budgets of all states and municipalities. Actual revenue could differ from budgeted revenue for a given subnational government in a given year, but differences are usually small.

⁴ The term “official budget” is used to refer to government expenditures included in the central government budget and additional credits, but excluding expenditures made through extra-budgetary investment funds. The amount of money and the investments made by these funds are not publicly available.

⁵ Article 17 of the constitution guarantees municipal autonomy, while article 16 defines states only as political divisions of the territory.

⁶ In addition to transfers to states and municipalities, in recent years the central government has transferred resources to communal councils to invest in community projects. However, there is no official data on the size of these transfers.

⁷ Article 167 of the constitution.

⁸ Ordinary income excludes debt financing.

Table 8.1 | Transfers to Subnational Governments, 2010

	States	Municipalities	Total
Millions of BsF	26,256	6,208	32,464
Millions of US\$ (official)	6,106	1,444	7,550
Percent of total transfers	81%	19%	100%
Percent of official budget	16.5%	3.9%	20.4%
Percent of GDP	3.4%	0.8%	4.2%

Sources: National Budget Office, Finance Ministry, Central Bank of Venezuela, and authors' calculations.

Note: BsF = bolívar fuerte.

Table 8.2 | Types of Transfers to Subnational Governments, 2010

	State		Municipal	
	Percent of transfers	Percent of revenue	Percent of transfers	Percent of revenue
Constitutional transfer	70.8	64.6	63.0	22.9
<i>Special Allocations Law*</i>	6.6	6.0	15.3	5.6
Intergovernmental Fund for Decentralization**	9.5	8.7	20.3	7.4
Special transfers	7.3	6.7	1.4	0.5
Health decentralization transfers	3.4	3.1	—	—
Grants and other transfers	2.5	2.3	—	—

Source: National Budget Office.

*Now part of the Interregional Compensation Fund.

**Now part of the Interregional Compensation Fund.

30 percent is divided in equal parts among all 335 municipalities, while the remaining 70 percent is divided on the basis of the municipalities' populations.⁹

In practice, there are almost no restrictions on how the constitutional transfer is spent by the subnational governments. The constitution stipulates that at least 50 percent of funds from the constitutional transfer must be spent on capital investment, but this requirement is not enforced. As a matter of fact, the constitutional transfer mainly finances current expenditures, mostly payroll, and is the most important source of financing for all states and most municipalities. Since 1989, it has represented an average of 70 percent of the states' revenues.

The constitutional transfer is also a source of political friction between the central and subnational governments because it is calculated based on ordinary revenue in the national budget. The forecast for this revenue determines the

⁹ Article 167 of the constitution.

amount of resources to be transferred. Since the constitution does not clearly specify what to do with windfall revenue, in recent years, the central government has consistently underestimated oil revenue in the budget, opening the window for the discretionary use of the extra resources.¹⁰

The Interregional Compensation Fund, administered by the Federal Government Council,¹¹ is mainly intended to finance investments executed by subnational governments. This Fund, envisaged in the 1999 constitution, was only established in 2010, with the approval of the new Law of the Council. The Fund was officially constituted in 2011 and is financed from two sources: (i) the Intergovernmental Fund for Decentralization,¹² which receives 20 percent of the revenue generated by the VAT; and (ii) the Special Allocations Law, which receives 5 percent of the revenue generated from oil taxes.

In 2011, the Federal Government Council decided to distribute the Interregional Compensation Fund as follows: 35 percent for communal councils, 37 percent for states, and 28 percent for municipalities. The 65 percent for states and municipalities is distributed considering population and a relative development index that takes into account poverty, human development, and income per capita. Historically, this Fund and the Special Allocations Law have represented close to 15 percent of the states' total revenues (see Table 8.2); however, as the Interregional Compensation Fund started distributing 35 percent of its revenue to communal councils, this share is expected to decrease.

In order to receive resources from these funds, states, municipalities, and communal councils are required to present projects for approval to the Federal Government Council. Through this mechanism, the Council aims to guarantee that all projects are aligned with the national plan of the central government, and that they have clear and measurable objectives. Complying with these requirements is generally difficult for smaller municipalities and communal councils with weak institutional capacity.

¹⁰ The extra resources have historically been used through additional credits that are incorporated into the budget. However, in recent years, some revenue has not even been added to the budget but has gone straight to off-budget funds that are administered independently by the central government. Most recently, a law was approved stating that up to 95 percent of the extraordinary resources are to be transferred to the National Development Fund, the largest of these funds.

¹¹ The Federal Government Council is a regional council chaired by the country's vice president that includes all governors and some representatives of the mayors. It was created in the 1999 constitution to plan and coordinate regional policies.

¹² The Intergovernmental Fund for Decentralization was created in 1993 to secure political support for the creation of a VAT. All of its resources were to be spent on capital investment.

Discretionary Transfers

Discretionary transfers are made by the central government to subnational governments without a specific legal mandate. Rather, these transfers come from agreements between ministries and subnational governments to create or expand national public policies carried out by the subnational governments. Due to their nature, these transfers are influenced by political dynamics. Anecdotally, it is known that the government favors elected officials from its own party, working with them to execute national programs and invest in high-profile national projects in their territories. However, the fact that most of these transfers are not planned in advance for them to be included in the budgets of subnational governments (but are later included as additional credits), makes it difficult to prove this statistically. The main types of discretionary transfers are as follows:

- **Transfers to support national programs:** Transfers for national programs sometimes administered through local governments. For example, in recent years, some local governments have directly administered social programs such as *Misión Barrio Adentro*.¹³ These transfers are usually recurrent for the duration of the program.
- **Transfers to support decentralized concurrent services:** Transfers to help support services decentralized by the central government to states and municipalities. The most common examples are transfers from the health and education ministries to help fund hospitals and schools that were previously decentralized to states. These transfers are generally recurrent.
- **Transfers to (co)finance projects of national interest:** Transfers to partially or completely finance local projects that are considered by the central government to have regional or national importance. These are typically large infrastructure projects such as highways, local roads, hospitals, and aqueducts. Transfers for these projects are not recurrent.

The size of these transfers has varied through the years depending on different strategies and programs that the central government has adopted and implemented, but on average they have represented up to 10 percent of the states' total budgeted revenues.

¹³ *Misión Barrio Adentro* is a national primary health program that built small dispensaries in the heart of the poorest communities.

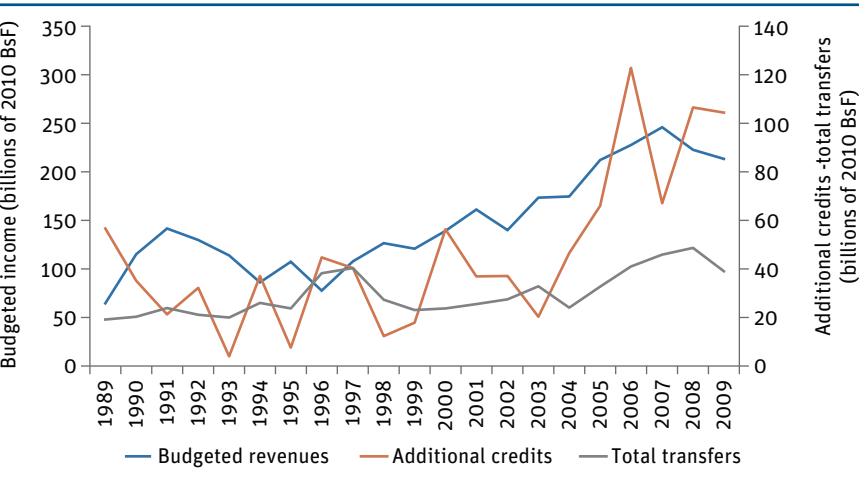
Volatility of Transfers

As mentioned, one of the defining characteristics of the Venezuelan central government’s fiscal management is its volatility, a consequence of its dependence on oil production and prices. Here we explore how this volatility is transferred to subnational governments. It is important to analyze the volatility of subnational finances because, as for the central government, it affects both the type and the quality of providing local public goods and services. The uncertainty and volatility of revenue usually lead to lower levels of capital investment and fewer long-term sustainable projects.

Figure 8.1 shows the volatility of central government revenue. Budgeted revenue increased substantially during the period of analysis (1989–2009), with great variability (the coefficient of variation is 35 percent). However, what really affects the volatility of national expenditures are additional credits, which are essentially additional expenditures approved during the year by the national assembly due to higher-than-projected oil prices. The additional credits increase the coefficient of variation of total expenditures to 0.39.

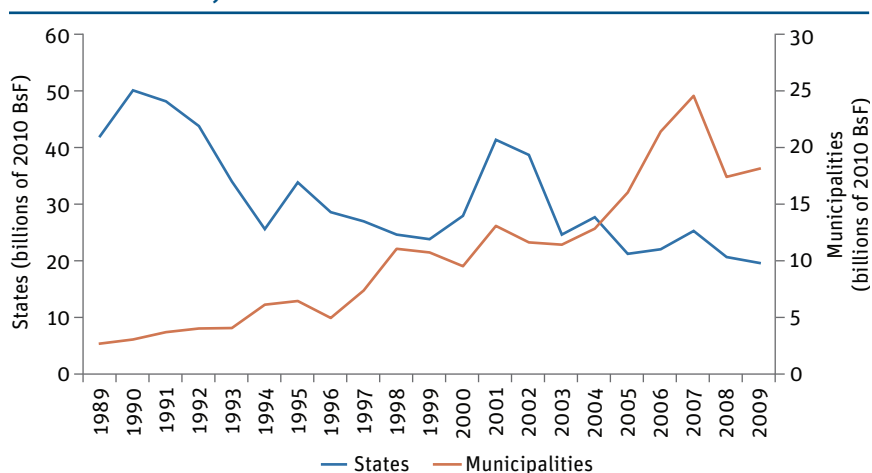
Transfers to subnational governments are positively correlated with the national budgeted revenue (0.77 correlation coefficient); therefore, the volatility is transferred to local governments. Figure 8.2 shows state and municipal revenues at constant prices since 1989. The states’ real revenues have varied considerably, initially declining by 53 percent from 1990 to 1999, briefly increasing by 73 percent in 2000 and 2001, and declining again to less than half the 1989 values by 2010.

Figure 8.1 | Transfers to Subnational Governments and National Budgeted Revenue, 1989–2009 (in billions of 2010 BsF)



Source: National Budget Office.

Figure 8.2 | State and Municipal Revenues, 1989–2009 (billions of 2010 BsF)



Source: National Budget Office.

Figure 8.2 also shows that municipal revenues have been even more volatile than state revenues. From 1989 to 2007 there was a sustained increase in revenues, followed by a decline in 2008–09 back to the 2005 level. Both transfers from the central government and own-source revenues caused variability in municipal revenues, although the volatility of transfers significantly exceeded that of own-source revenues. The higher volatility of transfers to municipalities than to states is partly explained by the fact that, until recently, Venezuela transferred all central government transfers to the municipalities, injecting delays and inefficiencies into the process.

Subnational Own-Source Revenues

Own-source revenues represent a small proportion of total revenues for all states and most municipalities, but they are very important for a significant number of municipalities that collect a considerable amount of taxes. Table 8.3 shows that total subnational own-source revenues amounted to 1.7 percent of GDP in 2010, equivalent to 8 percent of central government budgeted revenues.

Own-source revenues come mainly from three sources: taxes on land, property, and economic activities; service fees; and returns on investments. These concepts are defined in general terms in the constitution¹⁴ but further

¹⁴ Articles 167 and 179.

Table 8.3 | Own-Source Revenue by Type of Subnational Government, 2010

	States	Municipalities	Total
Millions of BsF	1,188	11,621	12,809
Millions of US\$ (official)	276	2,702	2,978
Percent of own-source revenue	9.0%	91.0%	100%
Percent of official budget	0.8%	7.3%	8.0%
Percent of GDP	0.2%	1.5%	1.7%

Sources: National Budget Office, Finance Ministry, and Central Bank.

Table 8.4 | Importance of Own-Source Revenue by Type, 2010

	State		Municipal	
	Percent of own-source revenue	Percent of total revenue	Percent of own-source revenue	Percent of total revenue
Taxes	6.0%	0.3%	78.9%	51.5%
Fees	29.6%	1.3%	4.8%	3.2%
Sale of goods and services	3.3%	0.1%	0.7%	0.5%
Property income	12.7%	0.6%	1.6%	1.0%
Others	48.4%	2.1%	9.9%	6.5%

Source: National Budget Office.

developed and detailed in national laws or local ordinances. For municipalities, taxes represent 51.5 percent of revenue, a significant amount since they can tax economic activities and property. For states, fees remain the most important revenue (excluding treasury reserves) of their negligible own-source revenues (Table 8.4).

Tax Revenues

The 1999 constitution reserves all taxes on income for the central government, leaving taxes on assets and economic activities for subnational governments. Municipalities have the authority to collect several types of taxes, the most important of which are taxes on economic activities, land, and property. The constitution provides states broader possibilities to collect taxes, subject to the approval of individual national laws for each tax. However, for more than 20 years no national laws have been passed to allow states to tax additional activities, and the only law that currently exists allows states to tax mines of non-metallic non-precious minerals (including marble, sand, slate, clay, and limestone). Therefore, states collect very little in the way of taxes.

Current legal conditions make the political economy associated with increasing tax revenue different for states and municipalities. States need specific national laws to assign them new tax bases. Thus, they first need to get support from the central government and the national assembly, which requires broader alliances of governors and their parties. Then, they must negotiate rates and other details within their respective regional legislative councils. Municipalities have ample and captive tax bases and can increase tax revenue by boosting their collection efficiency and increasing tax rates. Only increasing tax rates needs to be negotiated with local councils.

Municipal Taxes

The following are the main municipal taxes:

- **Turnover tax on economic activities in industry, commerce, and services**

This tax is calculated based on the total revenue a firm receives from selling goods or services produced in the municipality. Different products usually have different rates, which are specified in the municipal ordinance. This tax is levied on final and intermediate goods, a fact which causes cascading effects that reduce efficiency. This is the most important tax collected by municipalities because it has a large tax base, particularly in urban areas, and it is relatively simple to collect. Enforcement is reasonably effective because:

- businesses are fairly easy to locate;
- they can be closed down for failing to comply (with consequent economic losses); and
- the number of taxpayers is lower than for the property tax.

Additionally, larger firms have high mobility costs, particularly in industry, which tends to reduce the volatility of the tax base. A disadvantage of the tax is its positive correlation with, and relatively high sensitivity to, the economic cycle. A further major disadvantage is the very uneven distribution of its base, even in per capita terms. Also, the relative impact that one large company can have on municipal revenue may lead municipalities to compete using lower tax rates, particularly in cities that have several municipalities, such as Caracas.

- **Land and property tax**

This tax is calculated based on the size, location, and use of land and property in the municipalities. The municipalities are exclusively responsible for the cadaster, which is the basic source of information. Unlike most advanced countries, in Venezuela (and in other developing countries) this tax is not a

significant source of revenue for municipalities because of high administration costs, weak enforcement mechanisms, and the culture of evasion. The number of taxpayers is significantly higher than for taxes on economic activities, but each pays relatively small amounts and it is not legal to evict taxpayers from their homes if they do not comply with their tax obligations. As a result, the environment for collections is challenging and further hindered by the tradition of paying only when selling the property. The greatest advantage of this tax is its low sensitivity to the economic cycle and the low mobility of its base. Also, because of the size of the base and the high level of evasion,¹⁵ this tax probably has the greatest potential for municipalities to increase revenue. However, large investments are needed to improve the cadaster and keep it up to date. Moreover, this tax, being very visible to taxpayers and collected once a year, is more unpopular than the one on industrial and commercial activities.

- **Betterment levies**

These are taxes paid by owners whose property value has increased as a result of public investments in nearby areas. These taxes are rarely collected because the process of proving the increase in property value is difficult and cumbersome. The base is somewhat small but, considering the legal restriction on issuing public debt, it represents an alternative for financing urban investment projects.

- **Tax on vehicles**

The tax on vehicles is an annual levy on car ownership. This tax is generally related to the type of car and its age, according to local ordinances. Municipalities have exclusive control over this tax base, assigned to them by the constitution. This is another very underexploited tax for Venezuelan municipalities, with rampant evasion. Reasons are the same as for the land and property tax, plus an unclear legal framework for establishing precisely which municipality is responsible for collecting the tax. For example, in a city such as Caracas, with five municipalities, taxpayers could choose to pay taxes where they live, where they bought the car, where they work, or where they spend most of their time. Once again, there is a culture of paying only when cars are sold. While the revenue potential of this tax is much lower than that of the land and property tax, it is not negligible.

¹⁵ The Chacao municipality, probably the country's most institutionally advanced, estimates the extent of land and property tax evasion at more than 80 percent.

- **Excise taxes on lawful gambling**

The rates of these taxes are typically very high and depend on the size of the gambling parlor. The advantages of these taxes are low administration costs and high compliance rates, since legal gambling parlors are usually highly visible and public. Another advantage is the relatively low political cost of implementation and the possibility of using the proceeds to tackle gambling as a public health issue. However, the taxable base has remained relatively low because lawful betting has been allowed and prohibited on and off in recent years, and the sector is underdeveloped. A disadvantage is that the bases for these taxes are unevenly distributed between municipalities. The greatest potential lies in municipalities in tourist areas (principally free ports).

- **Excise taxes on commercial advertising**

These are taxes on permanent or temporary advertising in the municipality. Their greatest advantage is that by definition advertisements, particularly permanent ones, should be easy to locate and tax. However, administration costs are high, especially for nonpermanent advertisement. These taxes do not have a sizable base and tend to be more important in urban centers.

- **Taxes on public entertainment**

Taxes on entertainment events occurring in a municipality are calculated on a per-attendee basis. They do not represent a substantial tax base. As for taxes on advertising, their greatest advantage is that entertainment events are usually well publicized and easy to identify. These taxes are important in municipalities with large sporting arenas and conference centers, generally in larger cities or tourist destinations.

State Taxes

The only notable taxes under state control are royalties on the mining of non-metallic and non-precious minerals such as marble, sand, slate, clay, and limestone. They do not represent a large tax base, but it is the only one states are legally assigned. The biggest advantage of royalties is the very low mobility of their base. Disadvantages include high sensitivity to the economic cycle and a very uneven distribution among states.

Non-tax Revenues

Fees

Fees are collected for services delivered by subnational governments. The types of fees collected depend on the particular characteristics of the governments and

the services they deliver. Fee amounts vary among governments and depend on local legislation. Table 8.5 shows the most important fees collected for a sample of one state (Carabobo) and one municipality (Chacao). It shows that municipalities can collect fees on several more bases than states given their broader taxing power. A relatively important source of fee revenue for municipalities is construction permits for urban development. States depend mostly on stamped paper, since tolls, port and airport fees were recently centralized.

Fees are collected for registering official documents, issuing copies of them, and selling stamped paper and stamps. For municipalities, this is a significant source of revenue because they are responsible for the official cadaster, and the civil register. States issue stamps and stamped paper.

Traffic-related fees include road tolls and parking fees. Parking fees are uncommon, and not a large source of revenue, since the central government imposed price controls on public parking. Tolls, on the other hand, were common and significant for states until 2008, when a decree prohibited charging tolls.

Fees for the use of ports and airports used to be an important source of revenue for several states, mainly in the north of the country. However, a 2008 decree centralized management of public ports and airports, transferring their administration and revenues to the national ministry of infrastructure.

The main type of municipal fees for public services is for waste collection and disposal. This service was delivered through private concessions in the 1990s but has come to be increasingly provided directly by municipalities, since

Table 8.5 | Main Fees Collected by Carabobo State and Chacao Municipality, 2010 (percent of fees)

	Carabobo State	Chacao Municipality
Parking fees	—	2.7%
Document copies	—	10.2%
Municipal permits for construction	—	41.6%
Certifications and clearances	—	14.8%
Trash collection	—	11.3%
Municipal market	—	16.5%
Other fees	50.6%	2.9%
Port and airport fees	9.4%	—
Tolls	—	—
Stamped paper and stamps	40.0%	—
Fines and surcharges	—	—
Fines and penalties	—	—

Sources: National Budget Office and the Annual Municipal Management Report for Chacao.

the price for the service was frozen by decree in 2002. Very few municipalities deliver water to parts of their territories and collect user fees. Most water, natural gas, and electricity services are provided directly by the central government.

Fees for construction and development are significant sources of revenue for municipalities. These fees are paid by private real estate development companies and usually depend on the value of the land being developed. They are particularly important in urban centers.

Charges for violations of tax responsibilities or local regulations on traffic, construction, and public services among others (fees and penalties) are more common for municipalities than for states. Other fees include, but are not necessarily restricted to, those on the use of public spaces (squares, parks, or streets).

Sale of Goods and Services

Sales of goods and services are uncommon but significant when they occur. In general, they are related to the sale of local government-owned lands and/or buildings for private development. Sometimes they are empty municipal lots that must be allocated to municipalities when new areas are developed. They could also consist of buildings that go unused. All sales of this type need approval from the legislature. Sales of services are rare.

Property Revenues

These are revenues that result from owning assets. The two most common cases are interest payments on bank deposits and rents on municipal property.

Other Sources

One common resource is treasury reserves, which are essentially resources that were not spent in previous fiscal years that can be incorporated into the new budget. Reserves can be significant, and they depend on a local government's ability to successfully implement a given budget. With regards to debt, while constitutionally legal, it is practically not allowed for subnational governments because any private or public, foreign or domestic debt issuance needs approval from the central government and the national assembly. However, local governments do borrow from suppliers (floating debt) and even sometimes from employees (by withholding payment of benefits).

Estimating Efficiency of Own-Source Revenue Collection

As mentioned, municipal revenues present a very significant horizontal imbalance. Some municipalities collect almost 90 percent of their total revenue, whereas others collect virtually no own-source revenue. To analyze the reasons

for such large disparities, we used a stochastic frontier model that represents an adaption of the stochastic frontier production function proposed by Battese and Coelli (1995).¹⁶ The methodology used to assess the revenue collection capacity of municipal governments is as described in Yilmaz (2009), where only one aggregate variable is used as a proxy for the tax base, in this case household income data from the 2001 census. The stochastic frontier function for 2001 is estimated using municipalities' own-source revenues in nominal terms as the dependent variable, and total household income for each municipality, and a dummy variable for oil-producing municipalities as the independent variables:

$$Y_{it} = \beta_0 + X_i\beta_1 + D_i\beta_2 + (V_i - U_i)$$

where Y_{it} = own-source revenue collection in year t for municipality i ; X_i = total household income in municipality i ; D_i = oil producer dummy variable; V_i = random variables assumed to be iid $N(0, \sigma_v^2)$ and independent; and U_i = non-negative random variables that are assumed to account for technical inefficiency and to be iid as truncations at zero of the $N(\mu, \sigma_u^2)$ distribution.¹⁷

A three-step procedure was used to estimate the maximum likelihood estimates of the parameters of the stochastic frontier for revenue collection:

1. Ordinary Least Squares (OLS) estimates of the function were obtained. All estimators, with the exception of the intercept, were unbiased.
2. A two-phase grid search of γ was conducted, with the β parameters (with the exception of β_0) set to the OLS values and the β_0 and σ^2 parameters adjusted according to the corrected OLS formula presented in Coelli (1995).
3. The values selected in the grid search were used as starting values in an iterative procedure (using the Davidon-Fletcher-Powell Quasi-Newton method) to obtain the final Maximum Likelihood Estimates.¹⁸ The results of these estimates are presented in Table 8.6.

¹⁶ Because of the lack of data at the municipal level, it is not possible to estimate a panel model; instead we used cross-section regressions for 2001. We chose 2001 because the last Venezuelan census was carried out that year, and household income data are available for the municipal level.

¹⁷ The parameterization by Battese and Corra (1977), replacing σ_v^2 and σ_u^2 with $\sigma^2 = \sigma_v^2 + \sigma_u^2$ and $\gamma = \sigma_u^2 / (\sigma_v^2 + \sigma_u^2)$, is used here with the calculation of the maximum likelihood estimates in mind.

¹⁸ For more information refer to Himmelblau (1972).

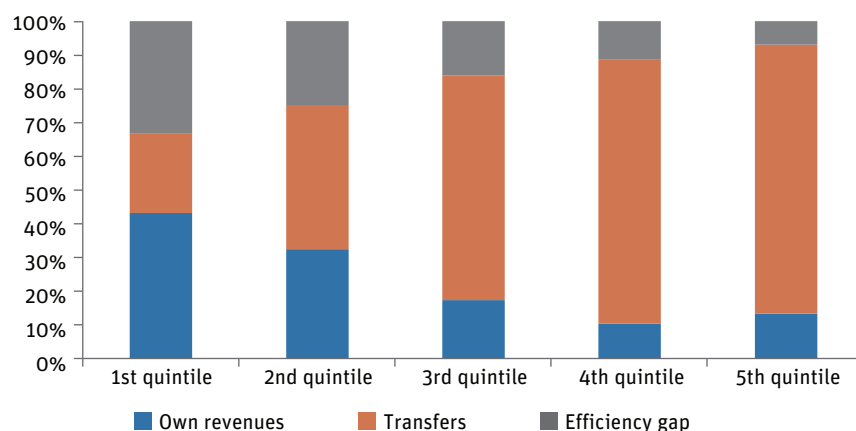
Table 8.6 | Final Maximum Likelihood Estimates

	Coefficient	Standard error	t-Ratio
Constant	-3.1	0.8	-3.7
Household income	1.0	0.1	11.8
Oil dummy	0.4	0.2	2.3
Sigma-squared	7.8	0.6	12.3
Gamma	0.99	0.0	272.0

Source: Authors' calculations.

After the revenue collection frontier was calculated for each municipality, the observed value was compared with the frontier value. The higher the ratio of observed to frontier values, the higher the efficiency of collection. When the observed and frontier values are equal, efficiency is 100 percent. A weak positive correlation was found between the tax bases and the efficiency calculated for their respective municipalities. This suggests that municipalities with a large tax base are generally more efficient. To analyze the effects that improvements in efficiency could have on total and own-source revenues, municipalities were classified by total revenues, from high to low, in quintiles (Figure 8.3).

Raising efficiency to 100 percent in small municipalities would not have a large impact on total revenue because it would increase the total revenue of the fifth quintile by only 16 percent; the estimated impact of a similar achievement in the first quintile would be over 47 percent. However, the effect on own-source revenues would be much larger (increases of 240 percent for the fifth quintile

Figure 8.3 | Municipalities' Revenue Composition (High to Low)

Sources: National Statistical Institute, National Budget Office, and authors' calculations.

and 73 percent for the first). Furthermore, achieving 100 percent efficiency would generate additional resources roughly equivalent to the transfers from the central government, thus either relieving some of the burden of redistribution for the central government or increasing municipalities' total revenue to provide public services.

In summary, the estimated stochastic frontier of revenue collection and its comparison with the observed values strongly suggest that, judging by the approximately 40 percent average efficiency in revenue collection, there is significant room to improve municipalities' own-source revenue performance without introducing new revenue sources. If municipalities were able to increase their efficiency in revenue collection, the horizontal imbalance and fiscal dependence across municipalities could be substantially reduced.

Fiscal Dependence of Subnational Governments

Following our analysis of the various sources of revenue for subnational governments, this section focuses on measuring the fiscal dependence (defined as the ratio of transfers to total revenue) of states and municipalities, and on explaining the reasons for such dependence. This analysis confirms that fiscal dependence is high on average, very high for the states and the poorer municipalities, and substantially lower for the richer municipalities.

States

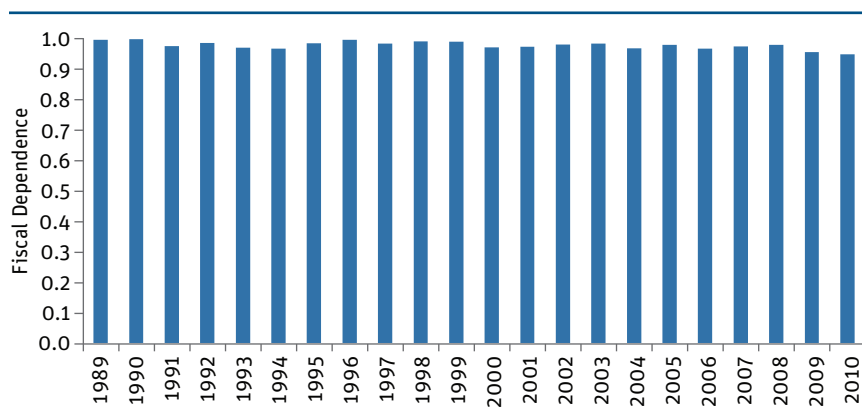
The states' fiscal dependence averaged 0.98 (close to total) between 1989 and 2010, with limited variation (between a maximum of 0.99 in 1990 and a minimum of 0.91 in 2010) (Figure 8.4).

The states' limited powers to tax also reduce the dispersion of fiscal dependence among them. Since most of their revenues are defined by transfer rules based on population, there are few ways for governments in economically active states to take advantage of their large potential tax bases and separate themselves from the rest. All states had average fiscal dependence between 0.99 (Amazonas) and 0.89 (Carabobo) for the whole period. Figure 8.5 shows states ordered by their average fiscal dependence for the period 1989–2010.

Municipalities

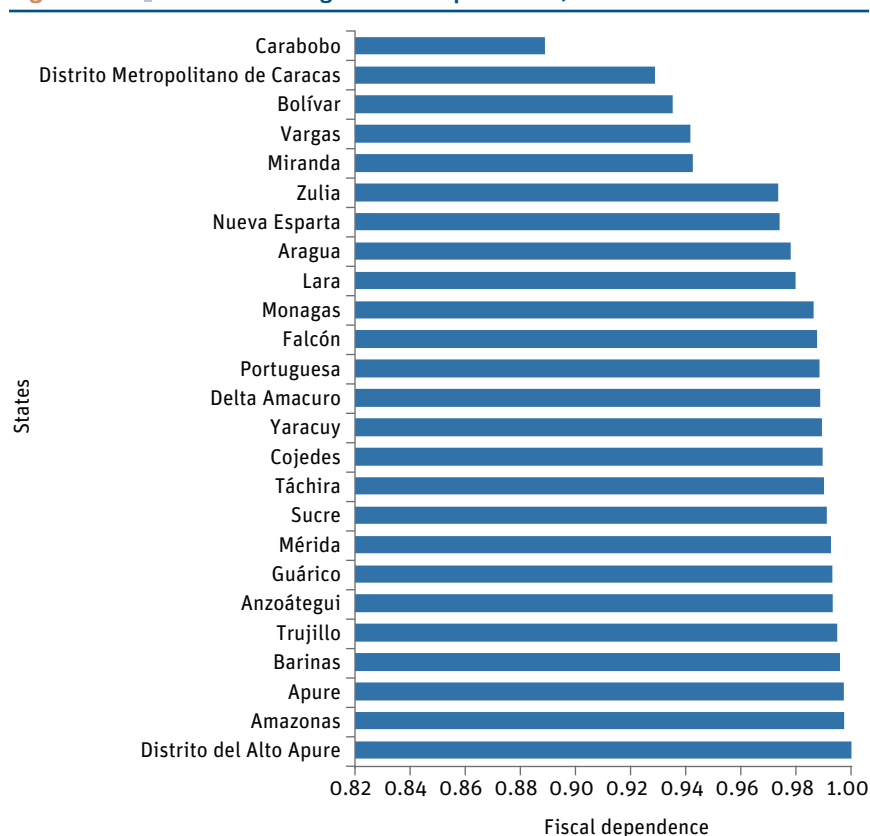
Reflecting their powers to tax and levy fees, on average the municipalities are significantly less dependent on central government transfers than the states. The average fiscal dependence for the municipalities is 0.76, or 0.22 points lower

Figure 8.4 ■ Unweighted Average Fiscal Dependence of Venezuelan States, 1989–2010



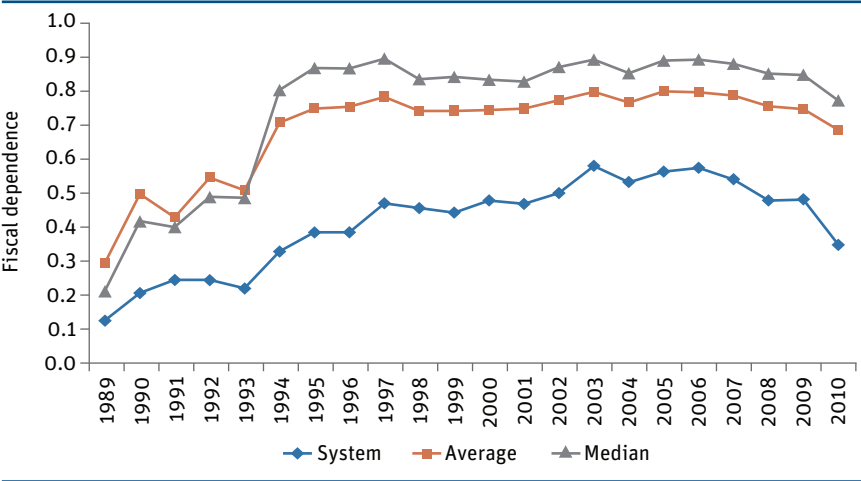
Sources: National Budget Office and authors' calculations.

Figure 8.5 ■ States' Average Fiscal Dependence, 1989–2010



Sources: National Budget Office and authors' calculations.

Figure 8.6 | Municipalities’ Average, Median, and System Fiscal Dependence, 1989–2010



Sources: National Budget Office and authors’ calculations.

than the average for the states. Moreover, in contrast to the states, dependence varied significantly over the period (1989–2010), between 0.5 and 0.8 (Figure 8.6).

It is interesting to note that the average, median, and system fiscal dependence differ greatly, indicating large differences among municipalities.¹⁹ From 1994 on, the dependence of municipalities in the 50th percentile was consistently close to 0.1 points higher than the average municipality, reaching more than 0.9 in several years. On the other hand, the fiscal dependence for the whole system averaged 0.41 and was consistently significantly lower than the average. The explanation for this is that there are municipalities that collect significant own-source revenues and thus have very low fiscal dependence. This drives system dependence down, but the great majority of municipalities are very fiscally dependent, which drives the median up.

Factors Affecting Municipal Fiscal Dependence

Our empirical analysis uses a cross section and a panel regression. The dependent variable is the average municipal fiscal dependence for the whole period. The explanatory variables tested are a dummy for the presence of oil production; population density as a proxy for the degree of urbanization; and a household income

¹⁹ The fiscal dependence of the system is defined as the ratio of the sum of all transfers to and the sum of all revenues of the 335 municipalities.

index that compares the average household income of each municipality with the national average. The last of those variables is only available for 2001, which is the year when the last census was carried out. The regression was run as OLS, with consistent coefficients in order to control for heteroskedasticity across municipalities.

Regression results were in line with expectations. First, for municipalities where oil is produced, fiscal dependence is 12 percent lower on average. This is explained by higher own-source revenues that more than compensate for larger than average *Special Allocations Law* transfers. Second, higher average household income significantly decreases a municipality's fiscal dependence. For example, income twice the national average is associated with a 42 percent reduction in dependence. Higher income is linked to more large companies, more affluent residents, and thus more capacity to pay higher taxes and service fees. This is by far the most important variable explaining fiscal dependence. Finally, higher population density is also linked with lower dependence. The results indicate that 1,000 more people per square kilometer is associated with a 5 percent decrease in dependence.

When analyzing municipal fiscal dependence, it is important to group municipalities into well-defined groups with different levels of dependence on transfers from the central government. Aggregating municipalities into these groups allowed us to explore in greater detail the way different variables influence fiscal dependence. Three groups were defined for the whole period: Group 1 includes municipalities with fiscal dependence higher than 0.66, Group 2 includes those between 0.33 and 0.66, and Group 3 includes those with dependence less than 0.33. Table 8.7 presents the number of municipalities in each group, as well as the distribution of their sources of revenues. Group 1 contains the largest number of municipalities, with a very high average fiscal dependence and very limited own-source revenues. Group 2 includes significantly fewer municipalities than Group 1, with lower dependence and higher own-source revenues. Finally, Group 3 contains less than 10 percent of the municipalities, has low dependence on transfers, and generates significant own-source revenues.

Table 8.7 | **Municipal Group Characteristics**

	Number of municipalities	Average fiscal dependence	Own-source revenues, 2010 (US\$ millions)	Transfers, 2010 (US\$ millions)
Group 1	243	0.88	1.2	3.9
Group 2	72	0.51	16.1	8.8
Group 3	20	0.25	1,600.3	287.1

Sources: National Budget Office and authors' calculations.

Table 8.8 | Panel Data Results for Real Growth of Revenue Controlling for Heteroskedasticity

	Panel	Group 1	Group 2	Group 3
GDP	0.47	0.37	0.39	0.61
National budget	0.17	0.30	0.25	0.11
Lagged GDP	0.97	0.97	1.01	1.00

Source: Authors’ calculations.
Note: All coefficients are statistically significant at 1%.

Using these groups, we ran a series of panel regressions, correcting for auto-correlation and heteroskedasticity as necessary. The regressions used the real growth of total revenue as the dependent variable, and the real growth of GDP, one year lagged GDP, and total expenditures in the national budget as explanatory variables. The control variables included population density, fiscal dependence, and the average growth of each municipality. The results (summarized in Table 8.8) suggest that the lower a municipality’s fiscal dependence, the more closely its total revenue is correlated with GDP, while the correlation with expenditures in the national budget declines.

This suggests that municipalities should strive to reduce their fiscal dependence, so that they depend more on GDP growth, which in Venezuela is more stable than expenditures in the national budget. Such a reduction in volatility should improve the quality of the public goods and services provided by municipalities, and should also allow for better planning of municipal investment projects.

Reform Options for Subnational Revenue

This section explores options to address the main problems with the current subnational revenue system discussed in the previous sections. Table 8.9 summarizes these problems and lists some possible solutions, including the introduction of new subnational tax handles, reforms of the intergovernmental transfer system, and administrative improvements.

New Subnational Tax Handles

Tax on Gasoline Consumption

A tax on gasoline consumption already exists at the national level, but it is negligible. It is a very common tax throughout the world, commonly used as part of government’s environmental policies. A simulation²⁰ of the revenue that could

²⁰ See Rios, Ortega, and Scrofina (2012) for details about the simulation.

Table 8.9 | Identified Problems and Proposed Solutions

Problem	States	Municipalities	Proposed solution
Fiscal dependence on central government transfers	Yes	Partially	States: gasoline tax, electricity tax, piggybacking on national income tax Municipalities: increase efficiency of tax collection
Revenue volatility	Yes	Yes	States: gasoline tax, electricity tax, new transfer mechanisms Municipalities: new transfer mechanisms, increase efficiency of tax collection
Sensitivity to the economic cycle	Yes	Yes	States: gasoline tax, electricity tax, new transfer mechanisms Municipalities: new transfer mechanisms, increase efficiency of tax collection
Tax evasion	No (but potentially)	Yes	States and municipalities: increase efficiency of tax collection
Heterogeneity	No (but potentially)	Yes	States and municipalities: new transfer mechanisms

Source: Authors' compilation.

have been obtained in 2006 from the introduction of such a tax, even with relatively low rates, suggests that it could have reached over 6 percent of the states' total revenues or 0.3 percent of GDP. The results of the simulation also indicate that revenues from such a tax would be relatively stable over the cycle and distributed roughly in line with the states' population (Figure 8.7).²¹ Moreover, a gasoline consumption tax would have relatively low administration costs. Gasoline is sold at easily identified establishments by a limited number of companies, and sales can be monitored without too many complications.

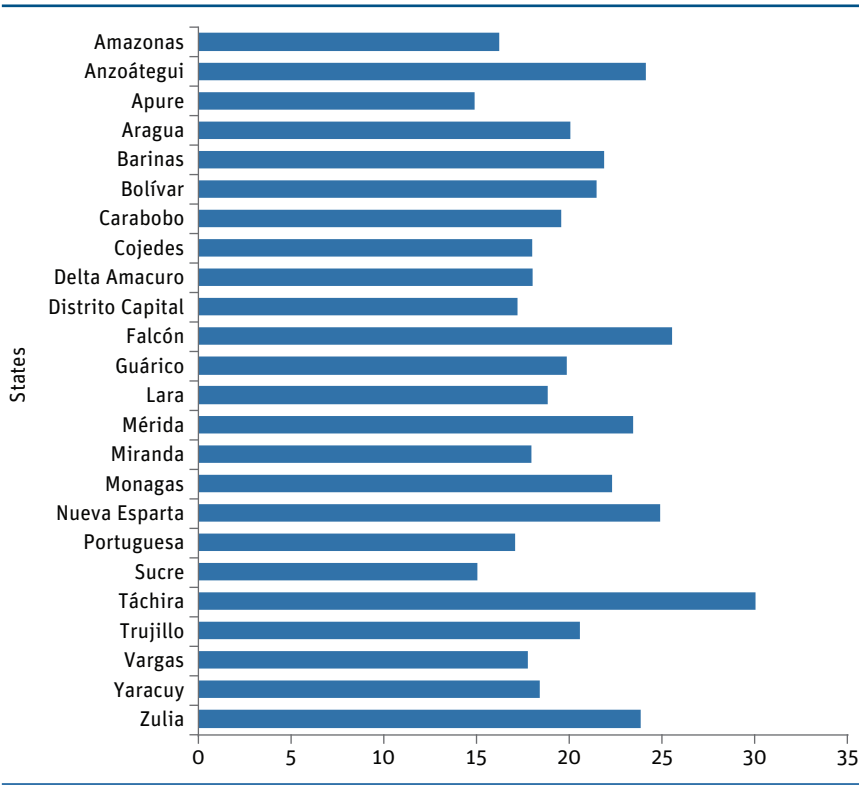
However, there would be a number of obstacles to introducing this tax in Venezuela because:

- it is easy for consumers to identify;
- there is a history of political sensitivity to raising the price of fuels; and
- it is legally difficult to implement.

The political sensitivity comes mainly from a 1989 episode in which an increase in the price of gasoline triggered riots in Caracas. Although the government has only raised prices once since then, the issue is still critical. Legal implementation is also difficult because the constitution reserves any tax on oil

²¹ If it was levied at a specific rate and adjusted annually for inflation.

Figure 8.7 Tax Collected Per Capita with a 0.2 Percent Tax Unit by State, 2006



Source: Authors’ calculations.

production and consumption for the central government; thus, a change of the constitution would be required.

Tax on Electricity Consumption

Like gasoline taxes, taxes on electricity consumption are commonly levied around the world, often at the regional as well as the national level. A simulation, based on 2007 data,²² was conducted to estimate its potential yield, with rates ranging

²² See Rios, Ortega, and Scrofina (2012) for details.
²³ While these high tax rates may seem unrealistic, the price of electricity has been fixed for more than five years, with average yearly inflation of more than 25 percent. Therefore, even with a 100 percent tax, real prices would still be significantly lower than they were five years earlier. If this proposal were to be implemented it would be logical to increase electricity prices and establish a lower tax rate.

Table 8.10 | Revenue Collected through Potential Tax on Electrical Consumption, 2007

	30% tax rate	50% tax rate	100% tax rate
Millions of BsF	2,600	4,333	8,665
Millions of US\$	605	1,008	2,015
Percent of GDP	0.5%	0.9%	1.8%
Percent of transfers to states	11.6%	19.3%	38.7%
Percent of total revenue	11.1%	18.5%	36.9%

Source: Authors' calculations.

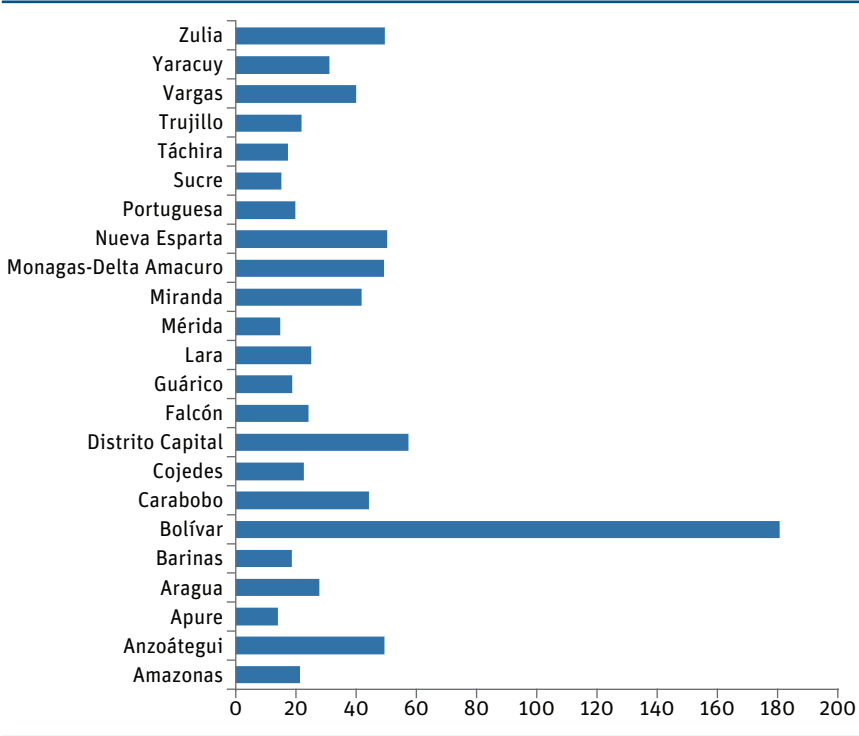
between 30 and 100 percent of the price per kilowatt hour.²³ The results indicate that revenue could be significant, even higher than from the gasoline tax. Setting the tax in 2007 at 30 percent would have generated US\$605 million or 11.1 percent of the states' total revenues (Table 8.10). There is not enough data to assess stability, but international evidence shows that this tax could be a stable source of revenue, which is one of its advantages. Moreover, it is a relatively easy tax to collect through electricity bills, and its introduction at the state level would not require a constitutional amendment. However, the results of the simulation indicate that the tax is not as homogenous as the gasoline tax, with some states collecting significantly more revenue in relation to their population (Figure 8.8) because they have industries that consume a lot of electricity, such as the steel industry in Bolivar state.

Surcharge on Personal Income Tax

A surcharge on the personal income tax could reduce the fiscal dependence of small municipalities with serious problems of efficiency in collecting taxes. Municipalities could help enforce collection of the personal income tax by sharing information with the central government. Furthermore, citizens may benefit from the personal income tax surcharge because competition among municipalities could improve the quality of the public services they provide.

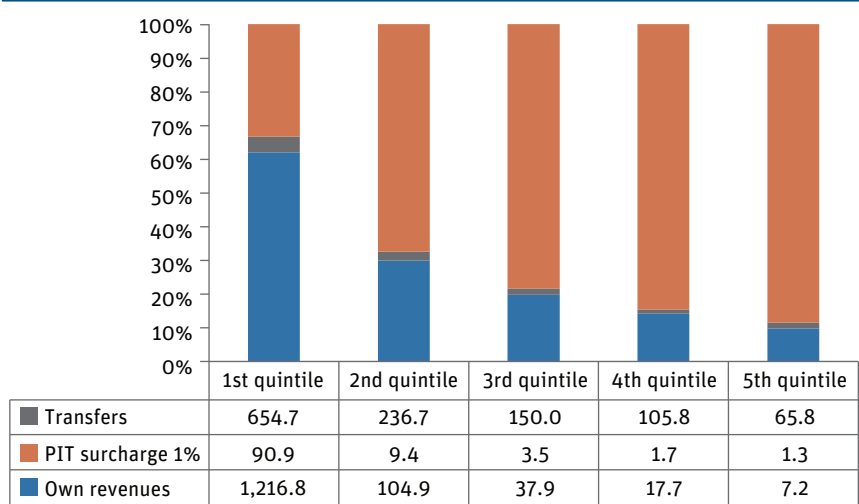
A simulation based on 2001 household income census data indicates that a 1 percent surcharge would have yielded the equivalent of 4 percent of total municipal revenue and 8 percent of own-source revenue. For municipalities in the fifth quintile, the revenue from the surcharge would have accounted for 60 percent of own-source revenue and 2 percent of total revenue. Though these percentages would have been lower for higher-revenue municipalities, those municipalities would still have received the bulk of the additional revenue, with 88 percent

Figure 8.8 | Per Capita Revenue Collected Based on 30 Percent Tax Rate by State, 2007



Source: Authors' calculations.

Figure 8.9 | Composition of Municipal Revenue (US\$ million)



Source: Authors' calculations.

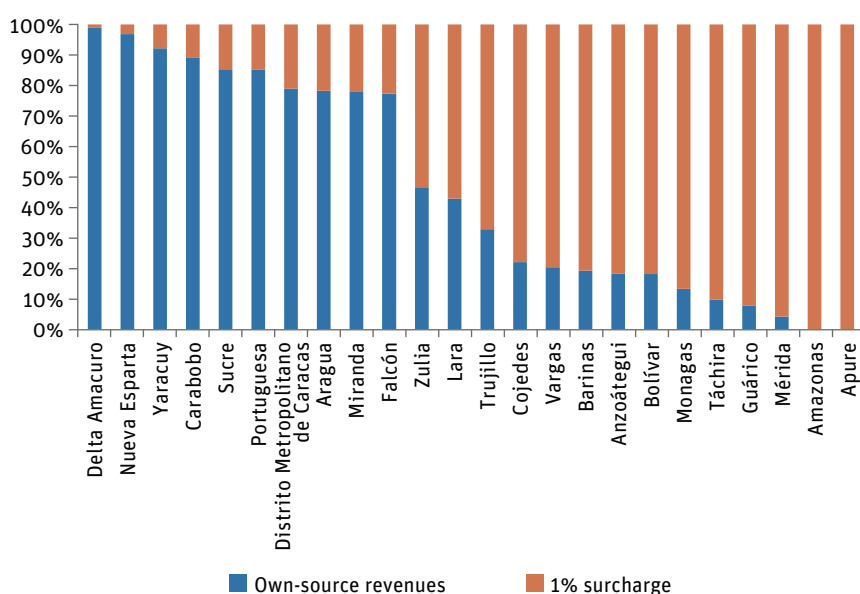
of the total estimated revenue from the personal income tax surcharge going to municipalities in the first quintile (Figure 8.9).

This exercise suggests that even a 1 percent personal income tax surcharge could have a substantial impact on municipal fiscal dependence; however, its effect on total revenue would be relatively small. This surcharge could also be applied by states, which could also benefit because of their very high fiscal dependence. A 1 percent personal income tax surcharge could have increased total revenue for all states by 2 percent in 2001; however, own-source revenue could have increased by 7 percent. As with the municipalities, the effect on total revenue would be relatively small, but the impact on own-source revenue would be considerable given the very low starting level of the states' own-source revenues. Figure 8.10 shows the estimated impact by state.

VAT Surcharge

A regional surcharge on the VAT collected by the central government would have the advantage of improving fiscal autonomy and reducing revenue volatility, while being relatively easy to implement. It could also improve information sharing between federal and local tax agencies, thus contributing to increasing the collection of other taxes. However, while Canada provides an example of reasonably

Figure 8.10 ■ Own-Source Revenue Composition



Source: Authors' calculations.

successful provincial VATs (Bird and Gendron, 2000), the experience in the few other countries with VAT-like regional taxes, such as Brazil, points to problems, especially with interregional trade.

Venezuela's VAT is collected by the National Integrated Service for the Administration of Customs Duties and Taxes (or the tax administration). This tax was created in the mid-1990s as a federal tax but with 30 percent of revenue destined to funding regional investment projects, as established in the 1999 constitution. The rates of the tax (which currently accounts for roughly 5.6 percent of GDP) have varied over time, with the standard rate now being 12 percent, among the lowest in Latin America.

A VAT surcharge should be assigned to the states with the right to set its rate, but should be collected by the national tax administration on behalf of the states. This would minimize complications in the administration of the tax.

A simulation (based on 2010 data) of a 1 percent VAT surcharge levied by all states suggests that it would have yielded the equivalent of US\$884 million, or 13 percent of state revenues. However, this increase would have been distributed very unevenly across states, disproportionately benefiting the more developed, urbanized states (Table 8.11). For instance, revenue would have increased by 76 percent in Distrito Capital and 37 percent in Miranda, but only minimally in scarcely populated states such as Amazonas and Delta Amacuro. The median total revenue increase would have been 3 percent, hardly significant. These results reflect the unequal consumption patterns in Venezuela. Regarding fiscal dependence, the impact would also have been significant but unequal.

A VAT surcharge thus appears to present great advantages but also important challenges. On one hand, it would have substantial revenue-generating potential: a 1 percent surcharge would have raised the states' 2010 revenues by 13 percent and reduced fiscal dependence by the same rate. With VAT rates on the lower end of the Latin American spectrum, an even higher rate surcharge would not be out of the question. The surcharge would also have the advantage of being relatively stable. On the other hand, states with large urban populations would benefit most from the increased revenue, particularly Distrito Capital and Miranda, where Caracas is located. Though rural states would hardly benefit, the central government could use compensation mechanisms to address this issue.

Changes to the Intergovernmental Transfer System

As discussed in previous sections, moderating the volatility of subnational revenues should be a policy priority in Venezuela. This objective requires reforms to the system of central government transfers, which are the main cause of

Table 8.11 | Potential Revenue from 1 percent VAT Surcharge (US\$ million)

State	Transfers	Own-source revenue	Total revenue	Revenue from 1 percent VAT surcharge	Surcharge percent increase in own-source revenue	Surcharge percent increase in total revenue
Amazonas	111	—	111	0.5	—	0%
Anzoátegui	324	7.7	332	22.4	289%	7%
Apure	186	—	186	1.1	—	1%
Aragua	290	11.9	302	25.6	216%	8%
Barinas	180	1.4	181	5.9	423%	3%
Bolívar	296	67.0	363	39.7	59%	11%
Carabobo	452	220.7	673	97.4	44%	14%
Cojedes	117	0.1	117	0.5	374%	0%
Delta Amacuro	105	0.3	105	0.3	115%	0%
Distrito Capital	373	44.2	417	316.6	716%	76%
Falcón	207	5.0	212	6.7	133%	3%
Guárico	178	4.0	182	3.9	97%	2%
Lara	379	31.1	410	41.7	134%	10%
Mérida	185	1.8	187	9.7	526%	5%
Miranda	454	136.3	591	217.2	159%	37%
Monagas	325	16.0	341	8.3	52%	2%
Nueva Esparta	130	11.6	142	1.6	14%	1%
Portuguesa	190	1.9	192	4.0	209%	2%
Sucre	195	1.8	197	4.6	254%	2%
Táchira	285	22.7	308	22.4	99%	7%
Trujillo	172	0.6	172	4.2	647%	2%
Vargas	133	—	133	1.5	12096%	1%
Yaracuy	190	7.4	197	0.7	10%	0%
Zulia	621	2.3	623	48.0	2064%	8%
Total	6,078.2	595.9	6,674	884.1	148%	13%

Sources: The tax administration, National Budget Office, and authors' calculations.

subnational fiscal volatility. Transfer volatility is a reflection of the high dependence of the central government on highly volatile oil exports. Therefore, the most obvious way to reduce volatility would be to increase the weight of non-oil taxes in total revenue. However, these taxes, despite the important efforts made by the tax administration in recent years, as a percentage of GDP, remain well

below the Latin American average, and the political will to introduce the policy changes needed to significantly increase them seems to be lacking.

A first approach to reducing the volatility of transfers to subnational governments would be to stabilize central government revenue. A common and proven solution is to use a macroeconomic stabilization fund. However, since 1998, the rules for the existing stabilization fund have been changed several times to accommodate short-term fiscal difficulties. These changes have made the mechanism inoperative and non-credible.

A second approach would be to introduce stabilization mechanisms for the central government transfers. One option would be to change the way transfers are calculated. Instead of using a formula that establishes a fixed proportion of ordinary revenue, which is very volatile, the central government could use a scheme in which transfers are fixed in real terms and based on the expenditure needs of subnational governments. Transfers could also be calculated using moving averages of central government revenue. Alternatively, a floor and a ceiling could be established.

These rules could act as a buffer, preventing subnational governments from increasing inflexible expenditures during boom times and making the central government responsible for securing funding during downturns. Since the current transfer system is set forth in the 1999 constitution, any changes would require strong political will and consensus building; new complementary rules may be easier to adopt.

Alternatively, a form of stabilization would be to allow subnational governments to borrow from domestic banks and capital markets. However, this should be implemented carefully because some subnational experiences in Latin America have been disastrous. A limited degree of borrowing by subnational governments subject to clear and strictly enforced rules should not create serious fiscal risks. Moreover, borrowing limits set in relation to own-source revenue could provide incentives for subnational governments to mobilize own-source revenues.

At the subnational level, it could be difficult to implement stabilization mechanisms given institutional weaknesses; however, adopting expenditure rules might help. Subnational governments could establish saving funds, which could be used to save during boom times and to spend during downturns. There have been experiences of this kind in some Mexican and U.S. states (González, Rosenblatt, and Webb, 2002).

Finally, a strategy could be to treat the consequences of revenue volatility rather than volatility itself. One option would be to increase the share of transfers that go to the Interregional Compensation Fund relative to the constitutional

transfer. Some of the revenue generated by the proposals in previous sections could go directly to this more stable fund.

All these measures taken individually may not be enough to mitigate the volatility brought about by the intergovernmental transfer system, but all together they could help improve the fiscal performance of both central and subnational governments. An important prerequisite of any proposal to reduce volatility at the local level is to establish simple and clear rules that minimize discretionary policymaking.

Improving Municipal Revenue Administration

An important cause of the above-mentioned high municipal dependence on central government transfers is the fact that local agencies are inefficient at collecting taxes, leading to high rates of evasion. Unofficial estimates for the Sucre municipality, one of the largest in the country, put the tax evasion rate at more than 45 percent. Anecdotal evidence suggests much larger rates in smaller and less institutionally developed municipalities. While the problems are numerous, they can be grouped into three categories:

- weaknesses in tax assessment and collection
- inadequate enforcement policies
- low tax morale

Weaknesses in Tax Assessment and Collection

The most essential tasks of tax agencies are tax assessment and collection. Both are problems for local governments in Venezuela. Assessment is particularly difficult for land and property taxes, since property cadasters are generally outdated, not computerized, and not automatically adjusted for inflation. Keeping an up-to-date cadaster requires significant investments that most municipalities cannot afford. Even in some of the largest municipalities, such as Maracaibo and Sucre, local authorities do not have reliable information to calculate land taxes.²⁴ This makes it difficult to update land prices regularly, leading to underestimated tax bills. Also, while taxes on economic activities are easier to calculate and keep

²⁴ Between 2009 and 2011, The Development Bank of Latin America financed the Regional Program for the Update and Improvement of Local Management for selected Venezuelan municipalities. For the six municipalities analyzed, the most common recommendation was improving local cadasters and geographic information systems. Common problems included outdated information, inadequate information-sharing within municipal offices, and very rudimentary tax-collection information systems.

²⁵ A web survey by the authors found that only 4 of more than 60 municipalities from large and small cities offer the option of online payment.

updated, taxes on other bases, such as advertising and vehicles, may require calculations that are not straightforward.

The second problem is related to the difficulties taxpayers face in paying taxes. In most municipalities payment is only accepted at tax offices and some banks, with very few allowing tax payments online.²⁵ Research by Dev Sood (2001) and Ramachandraiah (2003) has highlighted the importance of using the internet to increase tax collection in developing countries.

Among the reasons for all of these difficulties in assessing and collecting taxes is local legislation. To have 335 municipalities, and the same number of tax agencies and local legislative councils, drafting local ordinances that determine details for tax collection can lead to complex and non-operational legislation. Many of these agencies and councils lack the knowledge and support systems to avoid inadequate ordinances that are not strategic, make it difficult to collect taxes, and sometimes have significant loopholes.

Inadequate Enforcement Practices

A second major weakness is inadequate enforcement. Tax agencies should be able to identify and sanction violators effectively to discourage evasion. However, in Venezuela, local tax agencies generally underinvest in the number and the training of tax agents and auditors. Even those that have enough personnel rarely use data and geo-location tools to efficiently identify violators. Seldom are performance-based financial incentives, such as those recommended in Kahn, Silva, and Ziliak (2001), instituted for tax collectors.

Also, sanctions are low. For property taxes, there is no possibility of foreclosure or of the delinquent taxpayer's other assets being frozen. For taxes on economic activities, businesses can be temporarily shut down for violations, but tax agencies are not allowed to impound assets. In general, financial penalties are also low. Moreover, there are serious problems of corruption because of underfunded and politically controllable audit offices, as well as the absence of public financing for political parties. Often, taxes are informally pardoned in exchange for political or personal donations.

Low Tax Morale and Culture

Several studies, such as Davis, Hecht, and Perkins (2003); Trivedi, Shehata, and Lynn (2003); and Snaveley (1991), point to the importance of morale and culture in determining the extent of tax evasion. As with many oil exporting countries, Venezuela has traditionally lacked a tax culture. As Karl (1997) argues, oil dependence leads to the perception that resources from hydrocarbon exports are enough to finance public services. While the federal tax

administration has improved the tax culture in recent years by strengthening enforcement, it is still rather weak. Also, the recent political polarization has been detrimental. Areas for improvement include highlighting the relationship between taxes and public services, and using campaigns to improve the ethics and morality of citizens regarding tax compliance. Some authors have emphasized the importance of enhancing and improving public perceptions of the fairness of the tax system.

Options for Improvement

In light of these problems, the following steps could be taken to improve the effectiveness of local tax administrations.

- **Investing in local cadasters**

The central government should support improvements in local cadasters for several reasons:

- Cadasters require significant investments that could not easily be financed by municipalities.
- Cadasters constitute an investment that has economies of scale.
- Cadasters can pay for themselves in a few years.
- There are advantages to having multiple cadasters use the same technology and have the same format.
- Updated cadasters are also important for local planning.

This investment could be a direct subsidy, partial financing, or a loan. It could also be a system where a municipality could pay a fee for access to a centralized database and an information system.

- **Creating a local tax support office within the federal tax administration**

This office could help in several ways:

- Creating standardized tax ordinances that tax offices and legislatures can use, and give support to those that require help; this would harmonize tax rates and procedures
- Advising on the use of intelligence and data
- Providing training to tax collectors
- Sharing success stories
- Establishing secure channels to share information between the federal tax administration and all municipalities

- **Strengthening sanction procedures**

- Allowing assets of delinquent taxpayers to be frozen and the homes of delinquent taxpayers to be foreclosed

Conclusions and Recommendations

In Venezuela, around 90 percent of total exports are oil products, and close to 50 percent of fiscal revenue is generated from hydrocarbon activities. This has resulted in high volatility in the main macroeconomic variables because of the variability of oil prices and the lack of stabilization mechanisms. The volatility of central government revenue is transmitted to the subnational finances because around 70 percent of subnational revenue comes from transfers from the central government, and local authorities do not have instruments to deal with large variations in their revenues. As a matter of fact, one of the main sources of financing for governors and mayors is the constitutional transfer, a transfer of 20 percent of ordinary fiscal revenue from the central government that is closely linked to highly volatile oil revenue.

An important characteristic of the Venezuelan economy is the very low level of non-oil taxation. In 2009, non-oil taxes were equivalent to 14 percent of GDP, while the average for Latin America was around 17 percent (Rios, Ortega, and Scrofina, 2012). This could be viewed as an opportunity because there is room to increase the resources of subnational governments through taxation. This could contribute to reducing revenue volatility for states and municipalities, which is caused by their dependence on transfers from the central government. It could also help to improve accountability because citizens could be expected to demand better public services from state and municipal authorities as a *quid pro quo* for paying more subnational taxes.

The process of decentralization in Venezuela started as a political response to the loss of legitimacy of the political system. This loss was brought about by the exhaustion of an economic model based on the distribution of oil revenue. Although political decentralization advanced rather quickly, beginning with direct election of governors and mayors in 1989, it was not accompanied by significant fiscal decentralization. This resulted in major challenges for local authorities since several states and municipalities were transferred spending responsibilities, mainly in education and health services, by the central government with no clear funding mechanisms. Despite the fact that the central government has transferred resources previously included in the national budget to fund these responsibilities, there are no operational criteria to determine whether these resources are enough to maintain adequate levels of services. In recent years

there is evidence of a marked deterioration in the public services transferred to the states due to lack of funding.

At the same time, subnational governments face significant legal and institutional restrictions to generating own-source revenue. By law, states cannot levy taxes independently and have no borrowing authority; therefore, they depend on transfers from the central government for 90 percent of their budgets. Municipalities, on the other hand, have some limited tax authority on urban property and industrial and commercial activities; therefore, their dependency on transfers from the central government is less than 50 percent of their total budgets. There is, however, great heterogeneity among municipalities in this regard. The stochastic frontier analysis discussed earlier in this chapter demonstrated that there are serious efficiency problems in collecting existing municipal taxes that contribute to increasing disparities in the scope and quality of goods and services offered by municipalities. This suggests that there is room for improvement in collecting existing taxes by strengthening the institutional and administrative capacities of municipal governments.

For the states, we proposed the central government provide them tax authority, and we analyzed the pros and cons of various resource-generating mechanisms. In particular, we focused on state taxes on gasoline consumption, electricity consumption, and a surcharge on the national VAT. For municipalities, we suggested introducing a personal income tax surcharge, which could also be implemented at the state level. There is also room to improve efficiency in collecting existing taxes, and we suggest several measures to make this happen.

If implemented, these proposals could generate important resources for both states and municipalities, thereby contributing to reducing their fiscal dependence on the central government, the volatility of subnational revenues, and the negative impacts of the economic cycle. However, the disparities that could result from these changes should be addressed by making the transfer system more redistributive. It would also be necessary to introduce other changes to the transfer mechanism to reduce the volatility it imparts to subnational finances, and we put forward some specific suggestions to this effect.

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For a long time, Latin America has talked more about fiscal decentralization than acted upon it. Some countries have moved slowly down this path, while others have reversed direction and recentralized. This book contains illuminating analyses of the current state of decentralization in seven very different countries, and suggests how to improve outcomes. It provides a useful overview of this “work in progress,” the obstacles it has encountered, and promising ways forward.

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This remarkable volume provides a broad and informative look at subnational government revenue mobilization across Latin America. Its chapters present a comprehensive view of the issues and a wealth of practical experience in dealing with a range of economic and institutional environments. This invaluable resource for researchers and policymakers draws important lessons that can help boost subnational revenues to support equitable growth in the region.

Vitor Gaspar

Director

Fiscal Affairs Department, International Monetary Fund

This publication addresses with clarity and purpose the complex topic of subnational taxes. Although these taxes account for a small share of general government revenue in most countries, they can have a significant impact on the welfare of the population. They not only drive investment decisions and opportunities, but they can affect the development of natural resources. These complexities are often magnified when subnational taxes are significant and include interstate taxes. These and other challenges so masterfully described throughout the book have not dimmed the willingness of the region's governments to deal with them.

Joaquim Vieira Ferreira Levy

Minister of Finance, Government of Brazil

The assignment of public revenue among different government levels within a federal system has been a complex task. There is an enormous practical variation among countries and continuing debate among scholars on the optimal assignment. This book provides insight into how seven Latin American countries have confronted this challenge and suggests viable options for reforms.

Vito Tanzi

Former Director

Fiscal Affairs Department, International Monetary Fund

