

# POLITICAL ECONOMY OF MULTI-LEVEL TAX ASSIGNMENTS IN LATIN AMERICAN COUNTRIES: EARMARKED REVENUE VERSUS TAX AUTONOMY

*Ehtisham Ahmad*, International Monetary Fund and London School of Economics  
*Giorgio Brosio*, University of Turin

## INTRODUCTION

**D**ESPITE THE EMPHASIS ON DECENTRALIZATION and significant overall tax reforms in Latin America, there has been relatively little weight given to options for subnational taxation. Subnational finances in this region generally continue to rely on shared taxes with extensive earmarking. This generates a host of problems. For the federal/central governments the main problem is rigidity in macro-fiscal management. In most cases, sharing rates between central and local governments are determined by law or constitution and cannot be easily adjusted. A second problem, in part a consequence of the former, is reduced incentives for the central government to exert effort to collect shared taxes. For example, the Brazilian federal government has focused its collection effort on taxes not shared with the states and municipalities. The inefficient taxation of exports in Argentina is another example of reliance on taxes not shared between the central government and the provinces.

The problem of shared revenue and earmarking at the subnational government level is that it discourages efforts to collect own-taxes. Without adequate subnational own-taxes, attempts to impose hard budget constraints or to ensure effective subnational accountability are not credible. Moreover, earmarking introduces rigidities in spending patterns that constrain the goals of decentralization. With rigid earmarking, local preferences may be suppressed.

Correction of the perverse effects of extensive revenue sharing and earmarking requires, at the margin, increased reliance on own-source revenues. This is especially true for the intermediate level of government—states and provinces in federal systems—where much of decentralization of expenditure has taken place.

Enhancing the prospects for greater tax autonomy for intermediate levels of government has not been facilitated by recent tax reforms in many Latin American countries. The personal income tax has a small and declining tax base in Latin America, due

to long neglect and political resistance by powerful interest groups. Reliance on the VAT has been expanded. However, using VAT as a subnational tax—with tax rates varying across regions—poses problems in both design and implementation. Yet there are some interesting options that have been developed in other parts of the world that might be considered—these are discussed in this paper.

This paper explores the options for expanding subnational taxation in order to generate additional revenues as well as enhanced accountability of the decentralization process. Short-term options include VAT-type taxes, and specific consumption taxes, including for vehicle purchase and use. A longer-term option is increased reliance on surcharges on national personal income taxation. For municipalities the main avenue is a strengthening of the property tax that is extensively used but with poor exploitation of its potential. These options require a reversal of recent reform trends that have led to a centralization of taxing powers, and will also need to address the political interests, especially at the subnational levels, that have repeatedly blocked the tax reform agenda.

## SYSTEMS OF REVENUE SHARING AND EARMARKING

There has been a rapid centralization of taxation powers in Latin America in the 20<sup>th</sup> century accompanied by the establishment of transfer systems. Diaz-Cayeros (2006) provides an excellent explanation of centralization that has been based historically, in most countries, on bargaining between regional and national politicians in a context of the fragmentation created by civil wars. In essence, regional leaders (and in some cases, warlords) agreed to a reduction of their administrative controls and their taxing powers in exchange for a substantial share of the tax revenue collected by the central government. The resulting centralization of taxation ensured that the deal has not been reversed thereafter. This trend did not affect Brazil, where, in fact, subnational governments

have a much higher degree of tax autonomy than in the rest of the continent. In Mexico, the centralization of tax powers in the 1980s was due to the perceived efficiency of a centrally administered VAT. Replacing state taxes by a central VAT was facilitated by the fact that a single political party, PRI, held power both at the center as well as in most of the states at that time.

Earmarking of transfers has also steadily increased, transforming existing general grants into specific ones and further strengthening the centralization trend. Despite the decentralizations of the 1990s, subjecting local governments to strict conditionality is still considered in Latin America as a necessary instrument of good governance to ensure better targeted social spending.

Colombia presents one of the more illustrative cases (see Acosta and Bird, 2004). Shared revenues—called *Situado Fiscal*—are in fact a system of specific transfers as a share of national tax collections. Earmarking is extremely detailed. There are two distinct funds for departments. The first allocates 60 percent for education, 20 percent for health, with only 20 percent free of conditions. The mandate for the second fund is 75 percent for education and 25 percent for health. For municipalities, the earmarking rates are 30 percent for education; 25 percent for health, 20 percent for water utilities, 5 percent for sports, and the remaining 20 percent is unconditional.

A host of specific transfers adds to the overall rigidity of the system. With local choices so rigidly constrained, the capacity of Colombian local governments to adapt their policies to local preferences can be questioned—weakening one of the basic tenets of the normative theory of decentralization. Faguet and Sanchez (2006) argue that local expenditure priorities substantially changed after decentralization in Colombia, and they consider these changes as a merit of decentralization. However, in view of the extensive earmarking, the observed changes have to be ascribed mostly to central government policies.

A reliance on shared revenue and transfers also reduces the incentives for the beneficiary jurisdiction to exert fiscal effort. This seems to have been the case in Colombia. For example, Acosta and Bird (2004) show that in a number of departments subnational tax revenue declined in real terms during the 1990s.

The case of Bolivia deserves attention for two distinct reasons: centralization of revenue and

concomitant earmarking for municipalities and sharing of natural resources, which introduces potential conflicts across jurisdictions. Revenue from local taxes, fees, and user charges contributed, in 2003, to less than 30 percent of total revenue of municipalities. Shared revenue (*Coparticipaciones*) represented 40 percent and the remaining 30 percent was for other special purpose transfers. *Coparticipaciones* transfers continue to be based on population, with no effective mechanism to address income inequalities and differences in revenue capacity between municipalities. The Popular Participation Law requires that a large share of the *Coparticipaciones* transfers be allocated for public investment—with a broad definition of capital expenditures, which includes salaries for teachers and medical personnel. In 1996, the share for capital expenditure was reduced from 90 to 85 percent; however, over time, additional earmarking was established for the *Coparticipaciones* transfers, mostly for the health and education sectors.

Earmarking has been excessively extended with the enhanced Highly Indebted Poor Countries (HIPC) initiative, whereby resources deriving from cancellation of external national debt were channeled to local governments to reduce poverty and improve social conditions. In effect, the enhanced-HIPC initiative led to a new push in the decentralization process. In the context of the Poverty Reduction Strategy Paper (PRSP) and the 2000 National Dialogue Law, a share of HIPC resources was distributed directly to municipalities based on poverty levels.<sup>1</sup> In particular, the formula stated that 70 percent of HIPC resources would be allocated based on a recalculated population, which gives greater weight to poorer municipalities. The remaining 30 percent of funds are distributed equally among the nine departments. The HIPC resources are distributed to municipalities with the following constraints on their use: 20 percent for investment in education, 10 percent for investment in public health services, and the remaining 70 percent to socially productive investment infrastructure. Since public expenditure management systems at the local level are weak, the funds are transferred directly to three distinct commercial bank accounts for each municipality, one for each of the intended purposes as the sole way of tracking expenditures—on the presumption that this would adequately “ring-fence” the spending for the desired purposes.

Inchauste (2007) shows that HIPC resources initially accumulated in bank accounts of municipalities. A lack of local capacity may explain some of the lags in spending, but the problem has been clearly aggravated by earmarking: municipalities had to reorient priorities and projects (if they had any). After initial bottlenecks in 2001 and 2002, municipalities started to absorb all or most of what was transferred. However, the targeting of expenditure has not led to any substantial improvement in social indicators.

Mexico provides another example of a strong centralization of taxes, and corresponding reliance on transfers—85 percent of total state revenues are derived from federal transfers, and 65 percent for municipalities. Transfers are both for general purposes (compensating states for the loss of own-source taxes with the introduction of the VAT), and to meet specific objectives, and the latter outweigh the former. General transfers—labeled *Participaciones*—are derived from a common pool (RFP) composed of federal assignable taxes and of oil revenues. The total amount is determined as a share of the national pool (RFP). Specific transfers are quantitatively more important. The main specific transfers are for education and health, and are largely accounted for by salaries of teachers and medical personnel. Earmarking in this case has been used by unions and politicians to ensure a steady increase of personnel expenses *per se*. Over the years this has required the introduction of further conditional grants for specific items, such as didactic material, or maintenance of premises that have increased the rigidity and the cost of provision without any appreciable improvement in the quality of services (Ahmad et al., 2007).

Brazilian subnational governments have access to greater own-source revenues than in any other Latin American country. However, earmarking is almost as extensive as in the other cases, particularly for education. Furthermore, most earmarking derives from constitutional mandates and applies equally to the federal and the subnational governments. The constitution mandates that 18 percent of total federal collections are to be spent for education; that states have to spend 25 percent of their own tax collections and 25 percent of the federal transfers for education. The same rule applies for municipalities. Furthermore, both states and municipalities have to devote 85 percent of their expenditure on education to primary schools and 60 percent for salaries. The Brazilian

federal government has to increase health spending according to the rate of growth of nominal GDP. States have to allocate for health 12 percent of their tax collections (in addition to the specific grants), while for municipalities earmarking for health is 15 percent.<sup>2</sup> Federal mandates are supplemented by subnational legislation leading to additional earmarking. For example, the city of Rio de Janeiro has increased earmarking for education to 35 percent, while the state of Sao Paulo has introduced earmarking of its own collections for science and technology (2 percent), for environmental policies (5 percent) and earmarks 1 to 5 percentage points of the collection of its VAT-type tax (the ICMS) to poverty reduction programs (Villela, 2007).

Among the effects of earmarking are: (1) the creation of sectoral lobbies in all legislative bodies at all levels that obstruct central objectives to make the spending more responsive to local preferences and need; (2) creative accounting to circumvent the constraints; and (3) outright misuse of funds.

#### LATIN AMERICAN TAX SYSTEMS AND TAX REFORMS

Low taxation levels characterize Latin American public finances. Typically, tax to GDP ratios (including Social Security) are lower than 25 percent, with the exception of Brazil and Argentina. Other stylized facts about Latin American tax systems include: (1) a narrow role assigned to direct taxes, especially to personal income taxes; (2) despite a focus on indirect taxes, the presence of narrow bases, multiples rates, and extensive exemptions and loopholes; (3) weak tax administration capacity in many cases; and (4) centralization of taxes with revenue sharing and extensive earmarking of revenue shares and transfers.

With recent tax reforms<sup>3</sup>: (1) taxes on foreign trade have been largely replaced by domestic taxes;<sup>4</sup> (2) the role of the VAT has been considerably expanded (increasing from an average of 21 percent of total tax collections in 1990 to around 33 percent in 2003); (3) taxes on gross assets of enterprises have been created in a number of countries (Argentina, Costa Rica, Guatemala, Venezuela); (4) simplified taxes for small firms have been introduced (Costa Rica, Dominican Republic, Guatemala, Mexico; Nicaragua, Paraguay); and Argentina, Brazil, Bolivia, and Peru are notable for the introduction of a unique tax for small businesses; (5) taxes on company and personal income contribute around 25 percent of

total collections. Within income taxes, company taxes have increased (to around 60 to 70 percent of total income tax collections) at the expense of personal income taxes. Of the broad-based taxes, options based on the VAT and the personal income tax are relevant for subnational governments.

The VAT has increased its importance as a result of three distinct factors. These are: (1) a general increase of the tax rates; (2) a (more selective) widening of the tax bases and, (3) an improvement in tax administration (Tanzi, 2003). Obviously, progress has been uneven among countries. Mexico, for example, still collects much less than it could due to extensive zero-rating and exemptions.

Personal income taxation has traditionally played a minimal role in Latin America. Tanzi (2003) describes the Latin American attitude towards this tax as "allergic." While in industrial countries the PIT collections are more than 10 percent of GDP, in Latin America they represent less than 1.0 percent, with a steady decline over the years (see Table 1). In fact, reforms have substantially decreased the top marginal rates (for example, in Brazil from 60 to 27.5 percent, in Argentina from 45 to 35 percent, in Mexico from 55 to 32 percent). Minimum rates have been increased together with the threshold to which the minimum rate is applied. The result has been a decrease in the size of the taxpaying population. More important from the intergovernmental point of view is that collections have been affected by the large erosion of the base; in particular, the exemption of income from financial assets.

#### TRENDS IN REVENUE ASSIGNMENTS

As mentioned above, subnational revenue assignments have been largely unaffected by tax reforms, except in Brazil where VAT-type subnational taxes were strengthened in the 1990s, and where further reforms are envisaged. The main objectives of tax reforms in Latin America have been financial

restructuring and improvement of the competitiveness of the economy. Subnational tax revenue remains generally very low. In Brazil, subnational taxes account for 30 percent of total national tax revenue; in Argentina, Colombia and Uruguay subnational taxes are 20 percent and this share is only 10 percent in Peru, Nicaragua, and Honduras.

In general, tax assignments in Latin America are broadly in line with normative suggestions of the literature, particularly at the municipal level, where there is reliance on the property tax. However, property tax collections are generally quite low. Limited tax bases are assigned to the intermediate levels of government, with the exception of Brazil. The taxes assigned to this level are excises on alcohol and cigarettes, and taxes on vehicles. With limited own-source revenues, the devolution of expenditures to intermediate levels has led to a large and increasing vertical fiscal imbalance.

#### THE DYNAMIC CONTEXT: THE NEED FOR HARD BUDGET CONSTRAINTS

Extensive subnational reliance on shared taxes and transfers generates a potential soft budget constraint problem. Subnational governments are induced to incur debt, and Latin American countries have suffered from periodic subnational debt crises. For example, in the 1980s and 1990s, subnational governments in Brazil and Argentina generated a deficit of about 2.5 percent of GDP. Bailouts of subnational central governments have been a frequent occurrence (Rodden, 2002).

In Argentina, the absence of own-source revenues at the subnational level has continued to pose macroeconomic problems over the years. During the hyperinflation of the 1980s, provincial governments accumulated significant arrears on salaries, purchases as well as debt service involving provincially owned banks. To avoid the collapse of provincial banks, the federal government bailed

Table 1  
Comparative Levels of Company and Personal Income Taxation, 2002

	<i>Company income taxes (percent of GDP)</i>	<i>Personal income taxes (percent of GDP)</i>	<i>Total (percent of GDP)</i>
Latin America	2.0	0.9	2.9
United States and Canada	2.6	11.0	13.6
EU (15 members)	3.4	18.8	14.2
OECD	3.4	9.8	13.2

Source: Sabaini (2006).

out the provinces. In the early 1990s, fiscal adjustment policies tried to harden the provincial budget constraint by prohibiting, among other measures, federal agencies to pay creditors on behalf of provinces out of shared revenues and transfers. During the Mexican crisis of 1994, provincial banks in Argentina were on the verge of bankruptcy due to a heavy run on deposits and again the federal government provided transfers to provinces facing major budget problems (see Nicolini et al., 2002; Vignault, 2003; Webb, 2003). Subnational borrowing also contributed significantly to the macroeconomic crisis of the late 1990s. Despite these periodic crises, basic structural imbalances remain.

Similarly, in Mexico the fiscal reforms in the 1980s replaced state taxes by central taxes, and made it difficult for subnational governments to bear full responsibility for their deficits which ensued in the following periods. Subnational debt reached a crisis level with the 1994 Tequila crisis. The federal government intervened by providing transfers to the more indebted states, which effectively rewarded profligacy in the largest and richest states (Trillo, Diaz-Cayeros, and Gamboa Gonzales, 2002; Vigneault, 2003).<sup>5</sup> The subsequent imposition of stronger fiscal discipline, prudential regulations, and the prohibition on federal agencies to pay creditors of states out of shared revenues has maintained subnational debt in Mexico at relatively low levels. However, there is general recognition in Mexico that contingent liabilities of states are quite large, and because of the absence of significant own-source revenues, states continue to lack the incentives to manage these liabilities efficiently (Ahmad et al., 2007).

Since the 1980s, Brazil has also experienced a number of major fiscal crises as a result of high inflation during which states chose to incur into debt rather than raising their tax revenues (Rodden, 2003; Vignault, 2003). Consequently, states had increasing difficulties to serve their debt. The subsequent bailout of states by the federal government, although driven more by political and social considerations, led to a relaxation of fiscal discipline for the states. Thus, while the presence of tax instruments is a necessary condition for fiscal discipline, it is not sufficient to ensure that these will be used unless there are incentives for doing so.

In unitary countries, such as Colombia, the fact that the provision of additional transfers was not accompanied by an effective devolution of spending created deficit pressures at the central

government combined with increased spending at the local level. The fiscal adjustment of the late 1990s in Colombia, as in other Latin American countries, strengthened controls on subnational borrowing with ceilings on debt, prudential regulations, and passing of fiscal responsibility laws (Schineller 2006).

Tax reforms that strengthen central government revenues to the exclusion of subnational taxes create an increasing dependency of lower levels of government on the central shared taxes and transfers. Responsibility at the subnational level is weakened as additional spending is devolved or mandated by the center, and the overall system remains prone to infringement of fiscal discipline by the subnational governments. This leads to a game, where the center is forced to come to the assistance of the lower levels, often to maintain the stability of the financial system or prevent other major systemic dangers. If the central government intervenes, a precedent is created that leads to strategic behavior. The transfer-dependent subnational governments know that even if *ex ante* the central government denies that it will intervene, *ex post* it will be constrained to do.

Earmarking amplifies the problem by reducing the subnational government's capacity to respond to unexpected fiscal stresses. Essentially, earmarking is equivalent to the lack of local revenue autonomy. The larger the share of revenue that is earmarked, the lower the capacity of shifting expenditure from less urgent to more urgent areas and thus the higher the incentive to demand additional central government funds for purposes mandated by it and/or incurred debt.

## POSSIBLE TAX ASSIGNMENTS

Strengthening of subnational finances in Latin America is dependent on a greater reliance on revenue from own-source taxes. This section focuses on the potential of individual instruments of taxation, starting with those suited to the intermediate level of government, and concluding with the options for the municipal level. Existing tax assignments in selected countries are summarized in Table 2.

### State-Level VATs

The broadening role of the VAT taxation in Latin American countries could make it a potentially important source of subnational revenues. While there are no problems in running a VAT

at the central level and sharing the proceeds with lower-level governments, doubts are raised in the literature concerning the operation of a VAT as a truly local tax.

A true local tax would imply local discretion in the setting of tax rates, although within limits imposed by the central government. It could also imply some local discretion in the determination of the tax base. In the case of the VAT this would impact negatively on the working of the domestic/national market, and likely its advantages would not outweigh its costs. A VAT requires identical compliance requirements by taxpayers, regardless of location. If administered locally, a decentralized VAT could distort incentives by favoring local against nationwide collections. Central administration of a VAT has advantages over subnational collection—and recently Australia introduced a “state-level” VAT that is administered centrally.

There is relatively little experience in implementing a decentralized VAT.<sup>6</sup> Brazil has the longest and widest experience in this field with its ICMS, a state-administered VAT-type with a small tax base that does not include services (taxed at the municipal level).<sup>7</sup> But there are many difficulties. Among the difficulties are the high level of evasion, the nonhomogeneity of tax rules that impose huge costs on taxpayers for information and compliance, complex and burdensome administration for the public sector, and fiscal wars among states—with the tax being widely used for protecting/stimulating the local economies (Varsano, 2003). Most of these problems are derived from the very high autonomous decision-making powers of Brazilian states. There are in fact as many ICMSs as there are states.

However, the Brazilian case is of limited replicability. First, the Brazilian federal government is trying to move to a system of dual VATs, also now used in Canada. The other main federal countries in Latin America are Mexico and Argentina, with centrally administered VATs and revenue sharing arrangements. In unitary countries, a subnational (regional) VAT might provide substantial autonomy in taxing power without most of the distortions attributed to it by the literature, provided that some characteristics are determined centrally, with central tax administration. Even in the EU there are central (i.e., European-imposed limitations) on the use of VAT as a discriminating tax instrument (see the Fifth Directive on the VAT design). Indeed, the issue of carousel fraud might lead to a reconsidera-

tion of the design of the VAT, leading to more of the administrative issues also being determined at the European level.

A subnational VAT—including where the tax base is shared with the central government (dual-VAT), or a standalone VAT levied exclusively by subnational governments—is an accessible/manageable instrument once its tax base is defined nationwide, the tax is administered centrally and subnational governments determine the tax rates within centrally determined (and reasonably narrow) tax brackets (McLure, 2000; Keen, 2000; Ambrosanio and Bordignon, 2006). Finally, all producing and selling units should be registered taxpayers to avoid the problems of allocation of revenue for multistate firms, or the tax administration has all the information that is necessary to implement efficiently. It would be important to be able to trace both business-to-business as well as business-to-consumer transactions within and across provinces. A subnational VAT with these characteristics and constraints would still retain the essential characteristics of a local tax, since it would allow states to adjust collections (and tax burden) according to their expenditure needs.

More specifically, with the subnational VAT, only exports to other countries will be zero-rated, while both intraprovincial and interprovincial sales will be taxed at the same (provincially determined) rate. Since exports from province A to province B will be charged in A but refunded in B, the subnational VAT will impact on interprovincial trade as a typical destination-based VAT. A clearing mechanism for interprovincial sales would be necessary and would be provided by the central administration, or direct coordination between the administrations of provinces A and B.

The only possible infringement to the destination principle—and potentially a (big) source of distortion particularly with increasing popularity of e-commerce—would be interstate sales to households and non-registered traders. Since no refund can be given in this case, the subnational VAT would be based on an origin basis. However, its distorting effects on competition could be kept within manageable limits, if variation of tax rates among provinces is kept small. A C-VAT type or compensating VAT would be another alternative. It would consist of a nationwide uniform tax rate applying to all interstate sales to households and non-registered traders.

In conclusion, a subnational VAT could pose design and implementation difficulties in federal countries, where states enjoy considerable decision-making power and have widely differing rates and bases. It may be a lesser problem in an institutional setting where a nationwide uniform structure for the tax is a possibility, and where the tax administration could be centralized.

An alternative to a subnational VAT would be the introduction of a final sales tax assigned to provinces/states or departments. One problem here is the narrow base of the existing VAT, due to many exemptions and zero-rated goods and services in many Latin American countries, and it would be desirable to have a broader base for the sales tax. This may, however, not be politically possible—few states, for example, may want to tax food or medicines. Other problems with the sales tax are more general and well-known.<sup>8</sup> With only one point of collection, evasion of the sales tax may be easier than with a VAT. Also, it is difficult to avoid imposing the sales tax on business sales, thus leading to cascading and distortion of business inputs.

#### **Decentralized Taxation of Business with Direct VAT-Type Instruments**

There has been a renewal of attention in the literature and in practice of the virtues of local business taxes, particularly when levied on a benefit basis. Businesses are major users of local services and when user charges and fees are not enough to finance the services, general instruments of business taxation can supplement them. Businesses can be taxed locally using the property tax—this is widely done. An alternative is a surcharge on the company income tax. This has also been used widely, although problems arise particularly in apportioning the tax share to local administrations as most companies file corporate taxes in their headquarters.

The broadest tax base for businesses would be the sum of remunerations to all factors; that is, value added. A tax on value added levied on businesses instead of consumers should have three distinctive features: (1) it should tax income and not consumption; (2) it should be imposed on an origin and not destination basis and, (3) it should be assessed with the subtraction method on the basis of period (monthly, yearly...) of accounts, rather than using the invoice method. This form of business taxation, the regional tax on business (IRAP), has been implemented in Italy since 1998.

The Italian IRAP satisfies the requirements of a direct VAT-type tax. It is a tax payable by businesses on the difference between their sales and the sum of their material purchases and depreciation. Its tax base is the sum of wages, profits, rents and interest payments. Effectively, it is an origin-based income-type VAT, based on the subtraction method. IRAP is a regional tax because of the discretion of regions to determine the tax rates. The statutory central rate is 4.25 percent, but regions can vary this, in either direction, by 1 percentage point, and may differentiate the rate by sectors. Regions make extensive use of their autonomy, mostly by lowering tax rates applied to agriculture, cooperatives, and by increasing rates applied to financial services, insurance, and the energy sector. Government services are also subject to IRAP, with a tax base that is limited to wages and salaries paid and with a tax rate of 8.5 per cent.

Even with its present relatively low tax rates, revenue from the IRAP is substantial, in the order of almost 2.5 percent of GDP. It represents more than one-third of VAT collections, one-fourth of PIT collections, and more than two-thirds of CIT collections. These collections are more equally distributed across regions than either the VAT or CIT, because government (which is relatively more important in southern Italy) also pays the IRAP. IRAP has some attractive features on the administration side. It is levied on taxpayers already subject to the VAT, so additional record-keeping requirements are relatively small. It can thus be collected quite easily by a central tax administration on behalf of regional governments or local administrations can easily “piggyback” on the central tax administration.

A variant known as the SBT (Single Business Tax) has been suggested for Canada by Bird and Mintz (2000). The Mexican government presented to Congress (in July 2007) a form of ITU (direct tax with single tax rate)—although it was to be treated as a central minimum tax against the CIT. The main difference with the IRAP is that the ITU was designed to tax consumption rather than income, because firms are allowed to deduct their capital expenses rather than depreciation only. As is well known, a subtraction-based VAT only works well if a single rate is levied, and this was proposed in Mexico. Indeed, exports as well as domestic sales were to be subject to the tax, and imports would be correspondingly exempt, as with an origin-based tax. Unlike with other business taxes, the Mexi-

can tax is assigned to the central government and was designed to plug the loopholes with existing federal taxes, particularly in the CIT. In the final analysis, Congress approved a version of the tax that also allowed wages to be deducted—bringing it closer to a minimum corporate income tax than a VAT. From a tax administration point of view, the information and records required will be essentially the same as for the VAT and income tax (ISR), and so the federal tax administration can implement it relatively easily.

Although conceived as an IRAP-like instrument, the ITU has evolved as a federal minimum CIT. This leaves open the possibility that an IRAP-type tax might be used by the Mexican states in the future.

### Specific Production/Consumption Taxes

A number of Latin American countries assign excises to intermediate levels of governments, as in Colombia, where departments are assigned taxes on alcohol, beer, and tobacco. Other excises that could be assigned to subnational governments include those on fuel, electricity, and a wide range of other products, whose consumption may have an impact on the environment. While pure environmental taxes have limited revenue potential—especially when one considers their political feasibility<sup>9</sup>—fuel, energy, alcohol, and tobacco have broad tax bases and could thus provide substantial revenue when assigned to subnational levels. Moreover, regional consumption of these goods does not vary significantly. While typical excises on alcohol and cigarettes impose a higher burden on the poor, taxation of gas and energy could be more equitable.

There are policy arguments against subnational assignment of excises.<sup>10</sup> To avoid tax exporting and uneven regional allocation of revenue, excises have to be set on the basis of consumption rather than production. This makes administration more cumbersome than applying the tax on production. The main argument against excises is that the difference of rates influences spatial patterns of consumption, creating both legal and illegal (smuggling) problems for cross-border trade. This stimulates tax competition among subnational governments pitting small states against large neighboring states, or producing overall uniformity of tax rates. This applies in the case of high-value, low volume goods such as alcoholic beverages and highly taxed tobacco and oil products.

Various techniques (e.g., highly visible tax stamps, or putting different colors in gas sold in distinct areas) can be used in the effort to prevent smuggling and cross-border trade. Another technique to combat cross-border trade and smuggling is to reduce the rate of excises in border areas, although this may create additional administrative difficulties within regions. This solution has been introduced for the excise on gas in Italy by allowing regions neighboring Switzerland and Slovenia (once low tax countries) to reduce their tax rates in their border areas.

The administration of excises is easy when these are levied on production, but can become a problem with a consumption base. In fact, the production of excisable goods is highly concentrated, but consumption is evenly spread. Difficulties relate both to the allocation of tax proceeds among the local jurisdictions where consumption takes place and to the larger number of taxpayers. For example, the excise on gas sales have to be taxed and recorded at the gas stations. Alcohol and cigarettes need to be taxed and recorded at retailers.

It is easier to levy an excise at the beer factory and then allocate the revenues to provinces by estimates of regional consumption. In Mexico, the municipal tax on gas is based on firms (refineries), and relies on their records of sales for the allocation of the tax proceeds among local governments.

Vehicle taxation provides a different option. Vehicles can be taxed when they are purchased—usually with the registration tax—and/or annually with a tax on their use (and/or on their use of roads). Fees for automobile registration resemble excises. Most countries levy both taxes and assign them to the subnational, usually the intermediate, level. The tax base is broad and very dynamic, particularly in developing countries. Taxation can be made reasonably equitable and environmentally friendly by increasing the burden with the size or other characteristics of cars. Again, subnational taxation would work better within a framework provided by the central government to avoid excessive diversity and confusion.<sup>11</sup>

Taxation of electricity is a feasible and productive subnational source of revenue. Since bills by producing companies can be used, it is administratively easy and cheap and can be used also at the lowest administrative levels of government (even for subdivisions of municipalities). As with other excises, it is combined with the VAT and could be



made slightly progressive by exempting very small consumers or adopting two-part tariffs.

### Property Taxation

In most Latin American countries the property tax is the main instrument for raising own revenue at the local (municipal) level. However, as mentioned previously, collections are low by international standards and stagnating. For example, Mexico raises 0.23 percent of GDP from its property tax, Brazil does a little better with a share of 0.40 percent, while Colombia reaches about 1.0 percent of GDP. As a standard of comparison, modal values of property tax collections range worldwide, between 1.0 and 2.0 percent of GDP. Colombia is close to the lower end of this range, while only Uruguay is at the upper end (Sabaini, 2006).

Low collections are mostly the result of a combination of generally low nominal tax rates and poor administration. Expanding the role of property taxation would thus require working on both fronts. Although the property tax is a local tax from the point of the levels of government that benefit from its collections, in Latin America property taxation presents a variety of arrangements concerning policy and administration. In most unitary countries, tax rates and tax bases are defined at the central level (Bolivia and Peru), while in the federal ones approval from state legislatures is needed for changing the rates at the municipal level (as in Mexico). This introduces substantial rigidity in decision making, considering that raising nominal rates is politically difficult. And, without improvement in administration, it would simply amount to an increase in the burden on those from whom the tax is actually collected. There is also great diversity in the arrangements for administration. For example, the property tax is a purely local tax in Brazil, Colombia, and Ecuador, but it is administered at the provincial level in Argentina. In Mexico, there are overlapping roles between the local authorities and the states. In Chile, the central government is responsible for administering the cadastre, assessment, and collection systems.

Without centralized administration, there can be considerable variance in processes and procedures. Cadastre and recording technology can vary enormously from a simple list of properties to a cadastre based on a geographic information system identifying the usage of the property. Diverse valuation approaches are also observed: self-assessment has been used in Colombia (very

successfully, e.g., in Bogotá), whereas market or administratively assessed values are practiced in Brazil, Chile, Ecuador, and Mexico.

Experiences vary from country to country. In Colombia property tax collections increased as a percentage of GDP from 0.22 percent in 1970 to 0.91 percent in 1994, due in part to new legislation requiring the implementation and updating of the cadastre across the country. However, strong resistance against updating assessed values, as well as administrative difficulties in undertaking valuations, suggested the experimentation of self-assessment procedures. In the mid-1990s, the capital city of Bogotá was particularly successful in promoting self reevaluation of property values. Taxpayers were made responsible for declaring the assessed value of their properties, but the value could not be less than the recorded cadastral value. To reduce underassessment, the assessed value was also used as the basis for expropriation.

In Brazil, revenue from property taxes is quite low, representing less than 0.4 percent of GDP. In many local governments collections are symbolic. The importance of property tax increases with the size of the local government. However, big cities only partially exploit their property tax potential. For instance, due to updating of its cadastre, the city of Santana de Parnaíba, with 60,000 inhabitants in the State of Sao Paulo, collects approximately R\$ 212.00 per inhabitant, while the average revenue collected from property tax for cities of its size is R\$ 10.04 per inhabitant. This performance is even better than in Sao Paulo, the capital of the state, which collects less than R\$ 80.00 per inhabitant (De Cesare, 2002). To some extent, the lack of incentives to utilize the property tax handle could be related to the design of the transfer system and the excessive earmarking—local governments may see little benefit in imposing pain on the electorate if they can use other sources of financing for typical local spending needs, particularly basic education and health care.

Property tax collections in Mexico are a minimal share of potential collections, corresponding to 0.23 percent of GDP. OECD countries typically collect between five and ten times as much as a percentage of GDP. However, the tax remains the largest source of tax revenue for municipalities<sup>12</sup> amounting to 89 percent of the total revenues in the year 2004—although about half of the total collections were in Mexico City. The low collections are not attributable to low tax rates. On average

Table 2  
Assignment of Taxes in Latin America

	Argentina	Brazil	Mexico	Bolivia	Chile	Colombia	Peru
Corporate Income	N	N	N	N	N	N	N
Personal Income		I	I (payroll)	IDH: N, I N	N	N	N
Gross Assets of Firms and Individuals	N	N	N	Transfer: N	N	N	N
Sales	VAT: N Turnover I	VAT (ICMS): I	VAT: N	VAT: N	VAT: N	VAT: N	VAT: N
Other Indirect Taxes	Energy and fuel: N	IPI: N	Turnover: N Excises: N	Turnover: N Excises: N	Turnover: N Excises: N	Gasoline: N/I Alcohol and cigarettes: I Surtax on gasoline	
From Rents on Natural Resources	Royalties: I		Royalties: N, I			Royalties: N, I, M	Royalties: shared
Taxes on vehicles	Ownership: I	Ownership: I	Ownership and use: I	Ownership	Use: M	Registration and use: I	Registration: I
Real Property	Property: I	Land: N Urban Inheritance I Transfer: M	Transfer: I Property: M	Property: M	Urban property: M(s)	Transfer: I Property: M	Property: M
Business Taxes		On Services: M	Industry and commerce: M	Local business tax (Patentes)	Local business tax (Patentes)	Local business tax (Patentes)	

Notes: N represents national level; I the intermediate level, and M the municipal or local level; IHD: profit tax on hydrocarbons in Bolivia; ICMS: tax on goods and services; IPI: Industrial Products Tax, (Brazil); M(s) collections of property tax are shared among municipalities (Chile).  
Sources: Finot, (2004), Jimenez, (2007).

the rates range around 2 percent of value of the property, thus close to prevailing tax rates around the world.<sup>13</sup> Administration is the big issue. The property tax is plagued by a neglect of the cadastre, outdated valuations of property, and low collection efforts. The legal framework is largely undefined and obscure and helps to keep collections low by reducing incentives to raise the tax. Moreover, there is no clear assignment of responsibilities concerning the administration of the tax. Collections of the property tax were devolved with the constitutional reform of 1983 from states to municipalities. However, within the legal federal framework of Mexico, states maintain considerable powers concerning property taxes, particularly in relation to setting rates.<sup>14</sup>

Municipalities do not have incentives to improve collections of the tax, and rely on outdated cadastres with a large number of missing new properties, incomplete municipal registers, outdated values, and large numbers of registered taxpayers who do not pay. Payment of tax is not made easy for the taxpayers. Even in big cities, only one or very few windows are available and tax bills are not sent to taxpayers. Penalties for noncompliance are not frequently applied. As cadastres are also incomplete, the ratio of actual to potential tax revenue is very low. So, in some states and municipalities, collection rates are very low.

#### **Personal Income Taxes**

The personal income tax base is shared in many countries of the world between the central and the subnational governments. Sharing of tax bases could be achieved using local surcharges on the central PIT. Administration may also be central. Countries, which rely on the PIT surcharge, tend to apply a flat tax rate at the subnational level in order to reduce the administrative burdens.

Some countries share PIT revenues (as in Brazil), and in others, the revenues are added to a pool that is shared—as in Mexico. This latter does not qualify as a subnational tax, as junior governments are not able to vary rates depending on need, but is a form of transfer.

Subnational assignments of the PIT can be managed at both the intermediate and at the local level, using the residency principle. However, a local surcharge on the PIT may lead to a concentration of revenue collections in a few regional or local governments. This is likely to be the case in Latin America, given the patterns of income genera-

tion. However, this does not prevent the use of the assignment of a piggyback on the PIT to lower levels of government, it just means that it should be accompanied by an adequately designed equalization transfer system. At present, none of the Latin American countries has such a system.

#### **Rents from Natural Resources**

A number of Latin American countries derive substantial revenue from natural resources, specifically oil and gas. With two exceptions, Ecuador and Venezuela, oil and gas producing countries share revenue between levels of government, as presented in Table 3. Sharing of natural resources has become one of the most contentious issues in intergovernmental relations across the world. Claims by producing areas to retain most of the rent extracted within their borders generate conflicts with the central government, and also feed centrifugal or secessionist trends in producing regions, as is the case in Bolivia.

There has been an evolution in the constitutional treatment of oil and gas sharing in Latin America. Older constitutions that were drafted before there had been significant exploration of potential deposits, vested ownership and control of natural resources in the central government. There has been increasingly greater information on the potential deposits, as in Latin America by the early 90s. Constitutions adopted or modified subsequently have explicitly recognized the subnational government's entitlement to oil revenue, such as in the Argentinean and Colombian constitutions. This is because resource-rich jurisdictions exerted increasing pressures for the recognition of their property rights.

The tussle over natural resources is exemplified in Latin America by Bolivia. Departments traditionally had access to natural resource rents, but the deconcentrated nature of departments, whose governors were appointed by the central government, kept the conflicts under control. However, this changed at end of 2005, when Governors were elected by popular vote. This made Departments more vocal. Following the 2005 hydrocarbons law, departments have increased their share of gas rents. They receive presently 67 percent of all royalties, and 33 percent of the collections of the new tax on the direct income from hydrocarbons (IDH). Municipalities have also benefited from the new sharing of natural resource rents. They now receive 27.6 percent of the collections of IDH. Regional

Table 3  
Systems for Sharing Oil Revenue in Selected Countries

Country	Onshore production	Offshore production	Equalization system for oil revenue	Legal basis or source
Argentina	Royalties up to a maximum rate of 12.0% paid to producing provinces			<i>Ley de federalización de hidrocarburos</i> 24.145
Bolivia	67.0 percent of royalties are attributed to provincial governments. These government also receive 33 percent of IDH, while municipalities receive 27.8 percent.		Up to 10 percent of IDH is distributed by the <i>Fondo Compensatorio Departamental</i> to provinces with below the national average per capita royalties	<i>Ley de Participación Popular</i>
Brazil	Share of royalties exceeding 5 percent of value of production is distributed as follows: 52.5 percent to producing states; 15 percent to producing municipalities; 7.5 percent to transporting municipalities. Remaining 25 percent goes to the federal government. In addition, there is a sharing system by which gross revenue on production (minus investments, minus costs, minus taxes and royalties) is distributed: 40 percent to producing states; 10 percent to producing municipalities; 50 percent to federal ministries.	Royalties referring to continental shelf are distributed as follows: 22.5 percent to facing producing states; 22.5 percent to facing producing municipalities; 7.5 percent to transporting municipalities; 7.5 percent to <i>Fundo Especial</i> to be distributed to all states and municipalities. Remaining share goes to the federal government		Law 9478 of 1997 The proceeds of the first 5 percent share are distributed according to law 7990 of 1989.
Colombia	Royalty rates are determined by the central government. A ceiling determined on the basis of production is imposed on royalty earnings. Proceeds are distributed as follows : 47.5 percent to producing departments; 25.0 percent to producing municipalities; 8.0 percent to transporting municipalities and harbors; 19.5 percent to <i>Fondo Nacional de Regalias</i> .		<i>Fondo Nacional de Regalias</i> distributes proceeds according to development projects presented by departments and municipalities (included the producing ones)	Law 141 of 1994
Peru	20 percent of income taxes collected from mining activities are distributed to regional and 30 percent to local governments.			Law of July 2001

tensions, with demands for increased autonomy by the gas producing areas, have grown. A referendum on regional autonomy held in mid-2006 received overwhelming support in the rich eastern states. Distribution of per capita revenue of departments is highly skewed in favor of producing department (particularly Tarija) and sharing of gas resources remains one of the most contentious points underlying the drafting of a new constitution.

Colombia is also a quite interesting case, due to a huge concentration of oil production in very few mostly sparsely populated (at least before oil production started) departments. Colombia allocates a substantial share of natural resources to its subnational governments. All royalties from oil are allocated to subnational governments, partly on a direct derivation basis, that benefits the producing or transporting areas. More specifically, 47.5 percent of royalties go to producing departments, 12.5 percent to municipalities, and 8 percent to ports. The remaining 32 percent go to the National Royalties Fund.

Almost all theoretical arguments are for assigning natural resources to the central government and in some cases to share these with subnational governments. The arguments include huge regional concentration of resources, low local absorption capacity, fluctuations of prices, and even short duration of exploitation. Arguments for allocation to local government of some of the rents from natural resources include a need for additional investment for infrastructure in producing areas and compensation for environmental damage.

### CONCLUSIONS

Although there has been extensive decentralization of political powers and expenditure responsibilities in most Latin American countries, assignment of new taxing powers to subnational governments has been generally neglected. In general, vertical imbalances characterize intergovernmental fiscal relations in Latin America and the tax autonomy of subnational levels of government remains extremely low. Subnational spending is financed mainly by systems of revenue sharing and/or by largely earmarked transfers from the federal/central government. This pattern creates problems at both the central and the subnational level and from different perspectives.

From the macro-fiscal point of view, the pervasive problem is the absence of a hard budget

constraint and the repeated bailouts of subnational governments. From the microeconomic and the efficiency point of view, extensive reliance on shared taxes and transfers induces political and bureaucratic slack, and does not create incentives for the efficient management of public monies. The effectiveness of subnational public service provision is consequently generally low.

Recent tax reforms have generally strengthened the revenue capacity of central governments in Latin America, largely dictated by the creation of modern and efficient tax administrations. There has been almost no attention to the need to assign tax handles to subnational governments. In general, tax reforms in Latin America have focused on indirect taxation, particularly on the VAT. This has obvious implications for subnational revenue. Subnational tax autonomy can be more easily expanded by options to share the VAT than by sharing the personal income tax, that continues to be neglected (at all levels) in most Latin American countries.

However, assigning the VAT between levels of governments poses more problems than assigning a surcharge on personal income taxes. This paper has explored the feasibility of VAT-base sharing and a dual VAT, as well as IRAP-type arrangements, as feasible options. Obtaining agreements on the key parameters may be easier in unitary states than in federal countries.

In the longer term, a surcharge or piggyback on personal income taxation is the best option. It would allow subnational governments to set their own tax rates on a centrally defined tax base and within limits set up by the central government. This would also bring tax assignments in Latin America more in line with the best international practice.

The third pillar of subnational taxation is the property tax, which is widely used at the local level in Latin America, but with a very partial exploitation of its potential. This paper has explored ways for increasing local reliance on property taxation.

Finally, consumption excises are an option with some unused potential, particularly at the intermediate layer of government.

In all cases, the political economy considerations are important. Major reforms of the tax system may require concomitant adjustments in the transfer systems, in order to ensure acceptability, and also to create incentives that will lead to the effective use of the new tax handles.

## Notes

- <sup>1</sup> HIPC resources are first allocated to the Solidarity Fund for School Education and Public Health and the National Solidarity Fund (SUMI).
- <sup>2</sup> In Argentina, 12.3 percent of transfers to provinces have to be earmarked for education.
- <sup>3</sup> Tanzi (2003), Lledo, Schneider, and Moore, (2004), Varsano (2003).
- <sup>4</sup> According to Sabaini (2006), the share of collections from taxes on foreign trade decreased from 18 percent of total tax revenue in 1990 to 11 percent in 2003.
- <sup>5</sup> It has to be noted that political considerations did not play a role in Mexican bailouts. Trillo, Díaz-Cayeros, and Gamboa Gonzales (2002) note that the state of Baja California, which elected in 1989 the first ever opposition governor to the PRI rule, was made eligible for the generalized bailout of state debts in 1995.
- <sup>6</sup> Germany has a nationally determined VAT that is administered by the Länder—the court of audit estimates significant losses as the Länder attempt to use administrative preferences in lieu of tax policy measures.
- <sup>7</sup> Quebec initially had a destination-based provincial VAT on top of the federal VAT (called GST). Quebec administers both its own VAT and that of the federal government (Bird and Gendron, 1998). Canada has, however, moved to a dual-Vat system.
- <sup>8</sup> Ebrill, Keen, Bodin, and Summers (2001).
- <sup>9</sup> Many European environmental taxes are highly praised in the literature but whose actual revenue has remained low because of competitiveness concerns and pressure from producing firms. In fact, most polluting sectors are the traditional ones, such as chemicals and steel, whose survival in the more environmental friendly countries is threatened by international competition.
- <sup>10</sup> The literature is fairly divided. While some authors suggest that excise taxes are a potentially significant source of regional revenue, largely on administrative and efficiency grounds, others maintain that in general it is not always easy to impose regionally differential taxes without serious distortions, as well as substantial administrative and compliance costs and danger of evasion.
- <sup>11</sup> Richard Bird (2000) provides a vivid account of malpractice in Argentina. In this country every province levies an array of taxes on cars that vary with the year and model of the vehicle, largely in an attempt to levy a “progressive” tax. In San Juan Province it takes three (newspaper-sized) pages to list the details of vehicle tax rates. The ordinary tax rate is 3 percent—the value to which this rate is applied varies with the category, age, and weight of the vehicle. This approach is administratively complex and costly; it is not related to distributional objectives; it penalizes newer (and more efficient) vehicles. “As with other provincial taxes and charges in Argentina, the automobile tax suffers from undue refinement in terms of fine discrimination between very similar bases. The result is essentially

arbitrary differentiation with consequent economic distortion, and considerable leeway for administrative and compliance slippage.”

- <sup>12</sup> INEGI (2007).
- <sup>13</sup> For a property of MEX\$120,000, statutory tax rates were 1.65 percent in Guadalajara, 1.76 percent in Zapopan, 1.4 percent in Aguascalientes, and 2.33 in León (Santana Loza, 2007).
- <sup>14</sup> For the property tax they can decide to keep the cadastre and all cadastral functions under their control, or devolve partially or completely to municipalities. In the case of total devolution, municipalities would be responsible for updating the cadastre—adding new properties—and for revaluation of individual or groups of properties. Revaluation of properties according to inflation may be the responsibility of states, or may be devolved to their municipalities. Without devolution of the cadastre and of revaluation, municipalities would still be responsible for creating and updating of the registry of taxpayers/properties and for sending tax bills and collecting tax dues, unless the state decides to keep these functions. There is presently an extremely wide range of situations. In some cases, states have kept most functions concerning cadastre; in other cases they have made agreements with their municipalities (*Convenios*) devolving to them responsibilities concerning cadastre and other parts of administration. In some other states, such as Sonora and Veracruz, cadastre and other functions are being totally devolved to municipalities, although gradually starting with the biggest ones.

## References

- Acosta, Olga L., and Richard Bird. *The Dilemma of Decentralization in Colombia*. Toronto: University of Toronto, 2004. International Tax Program Paper, 2004.
- Ahmad, Ehtisham, J. Gonzalez Anaya, Giorgio Brosio, Mercedes García-Escribano, Ben Lockwood, and Ernesto Revilla. *Political Economy of Reforming Intergovernmental Fiscal Relations in Mexico*. IMF Fiscal Affairs Department and Secretaría de Hacienda y Credito Público, 2007.
- Ambrosiano, Maria F. and Massimo Bordignon. *Normative versus Positive Theories of Revenue Assignments in Federation*. In Ehtisham Ahmad and Giorgio Brosio, eds. *Handbook of Fiscal Federalism*. Cheltenham: Edward Elgar Publishing, 2006.
- Bird, Richard. *Subnational Revenues: Realities and Prospects*. Washington, D.C.: The World Bank, 2000.
- Bird, Richard and Pierre-Pascal Gendron. *Dual VATs and Cross-Border Trade: Two Problems, One Solution?* *International Tax and Public Finance* 5 (July 1998): 429-442.
- Bird, Richard and Jack Mintz. *Tax Assignment in Canada: A Modest Proposal*. In Harvey Lazar, ed. *Canada: The State of the Federation 1999/2000: Toward a New*

- Mission Statement for Canadian Fiscal Federalism*. Montreal and Kingston: McGill-Queen's University Press, 2000. pp. 263-292.
- De Cesare, Claudia M. Toward More Effective Property Tax Systems in Latin America. *Land Lines* 14 (January 2002).
- Diaz-Cayeros, Alberto. *Federalism, Fiscal Authority, and Centralization in Latin America*. Cambridge: Cambridge University Press, 2006.
- Ebrill, Liam, Michael Keen, Jean-Paul Bodin, and Victoria Summers. *The Modern VAT*. Washington, D.C.: International Monetary Fund, 2001.
- Faguet, Jean-Paul and Fabio Sanchez. Decentralization's Effect on Educational Outcomes in Bolivia and Colombia. London: London School of Economics, 2006. Development Research Centre Working Paper 62.
- Finot, Iván. *Descentralización Fiscal y Transferencias Intergubernamentales en América Latina*. Buenos Aires: Cepal, 2004.
- Inchauste, Graciela. Debt Relief in the Context of Decentralization in Bolivia: Has It Made a Difference? Washington, D.C.: International Monetary Fund, 2007. Draft IMF Working Paper.
- Instituto Nacional de Estadística y Geografía (INEGI). *Finanzas Públicas*. Ciudad de Mexico: INEGI, 2007.
- Jimenez, Juan Pablo. Relaciones Fiscales Entre Niveles de Gobierno en America Latina: Temas Pendientes y Desafíos. Paper presented at Seminario Internacional de Política Fiscal y Reformas Hacendaria, Morelia, Michoacán, Mexico, 2007.
- Lledo, Victor, Aaron Schneider, and Mick Moore. Governance, Taxes and Tax Reform in Latin America. Brighton: Institute of Development Studies, 2004. IDS Working Paper 221.
- Keen, Michael. VIVAT, CVAT and All That: New Forms of Value-Added Tax for Federal Systems. Washington, D.C.: International Monetary Fund, 2000. IMF Working Paper 00/83.
- McLure, Charles. Implementing Subnational VATs on Internal Trade: The Compensating VAT(CVAT). *International Tax and Public Finance* 7 (December 2000): 723-740.
- Nicolini, Juan Pablo, Josefina Posdas, Juan Sanguinetti, Pablo Sanguinetti and Mariano Tommasi. Decentralization, Fiscal Discipline in Sub-national Governments and the Bailout Problem: The Case of Argentina. Washington, D.C.: Inter-American Development Bank, 2002. Research Network Working Paper R-447.
- Rodden, Jonathan. The Dilemma of Fiscal Federalism: Grants and Fiscal Performance around the World. *American Journal of Political Science* 46 (July 2002): 670-687.
- Federalism and Bailouts in Brazil. In Jonathan Rodden, Gunnar Eskeland and Jennie Litvak, eds. *Decentralization and the Challenge of Hard Budget Constraint*. Cambridge, MA: MIT Press, 2003, Chapter 7.
- Santana Loza, Salvador. *Mejorar el Rendimiento del Impuesto Predial :Necesidad Inaplazable, Hacienda Municipal*. Mexico: INDETEC, 2007.
- Sabaini, Juan G. Evolucion y Situacion Tributaria Actual en America Latina. In *Tributacion en America Latina*. Santiago de Chile: Cepal, 2006, pp. 39-130.
- Schineller, Lisa M. Perspectives for Fiscal Adjustment in Latin America. In Lisa M. Schineller, *Challenges to Fiscal Adjustment in Latin America: The Cases of Argentina, Brazil, Chile and Mexico*. Paris: OECD, 2006.
- Tanzi, Vito. *Taxation Reform in Latin America in the Last Decade*. In José Antonio González, Vittorio Corbo, Anne O. Krueger, and Aaron Tornell, eds. *Latin American Macroeconomic Reform: The Second Stage*. Chicago: University of Chicago Press, 2003, Chapter 9.
- Trillo, Hernandez F., Alberto Díaz Cayeros, and Rafael Gamboa González. Fiscal Decentralization in Mexico : The Bailout Problem. Washington, D.C.: Inter-American Development Bank, 2002. Research Network Working Paper R-447.
- Varsano, Ricardo. *Tax Reform in Brazil: The Long Process in Progress*. Rio de Janeiro: Banco Interamericano de Desarrollo, 2003.
- Villela, Renato. Rigidez Orçamentaria e Vinculações no Brasil. Paper presented at the High Level Seminar on Intergovernmental Fiscal Relations in Latin American Countries, Brasilia, 2007.
- Vigneault, Marianne. Intergovernmental Fiscal Relation and the Soft Budget Constraint Problem. The Consortium for Economic Policy Research and Advice, Ottawa, Canada and Moscow, Russian Federation, 2003.
- Webb, Steven. Hardening the Provincial Budget Constraint. In Jonathan Rodden, Gunnar Eskeland and Jennie Litvak, eds. *Decentralization and the Challenge of Hard Budget Constraint*. Cambridge, MA: MIT Press, 2003, Chapter 6.