

**International Studies Program
Working Paper 10-20
May 2010**

**Financing Subnational Governments
with Decentralized Taxes**

Roy Bahl



**International Studies Program
Working Paper 10-20**

**Financing Subnational Governments with
Decentralized Taxes**

Roy Bahl

May 2010

International Studies Program
Andrew Young School of Policy Studies
Georgia State University
Atlanta, Georgia 30303
United States of America

Phone: (404) 651-1144
Fax: (404) 651-4449
Email: ispaysps@gsu.edu
Internet: <http://isp-aysps.gsu.edu>

Copyright 2006, the Andrew Young School of Policy Studies, Georgia State University. No part of the material protected by this copyright notice may be reproduced or utilized in any form or by any means without prior written permission from the copyright owner.

International Studies Program Andrew Young School of Policy Studies

The Andrew Young School of Policy Studies was established at Georgia State University with the objective of promoting excellence in the design, implementation, and evaluation of public policy. In addition to two academic departments (economics and public administration), the Andrew Young School houses seven leading research centers and policy programs, including the International Studies Program.

The mission of the International Studies Program is to provide academic and professional training, applied research, and technical assistance in support of sound public policy and sustainable economic growth in developing and transitional economies.

The International Studies Program at the Andrew Young School of Policy Studies is recognized worldwide for its efforts in support of economic and public policy reforms through technical assistance and training around the world. This reputation has been built serving a diverse client base, including the World Bank, the U.S. Agency for International Development (USAID), the United Nations Development Programme (UNDP), finance ministries, government organizations, legislative bodies and private sector institutions.

The success of the International Studies Program reflects the breadth and depth of the in-house technical expertise that the International Studies Program can draw upon. The Andrew Young School's faculty are leading experts in economics and public policy and have authored books, published in major academic and technical journals, and have extensive experience in designing and implementing technical assistance and training programs. Andrew Young School faculty have been active in policy reform in over 40 countries around the world. Our technical assistance strategy is not to merely provide technical prescriptions for policy reform, but to engage in a collaborative effort with the host government and donor agency to identify and analyze the issues at hand, arrive at policy solutions and implement reforms.

The International Studies Program specializes in four broad policy areas:

- Fiscal policy, including tax reforms, public expenditure reviews, tax administration reform
- Fiscal decentralization, including fiscal decentralization reforms, design of intergovernmental transfer systems, urban government finance
- Budgeting and fiscal management, including local government budgeting, performance-based budgeting, capital budgeting, multi-year budgeting
- Economic analysis and revenue forecasting, including micro-simulation, time series forecasting,

For more information about our technical assistance activities and training programs, please visit our website at <http://isp-aysps.gsu.edu> or contact us by email at ispaysps@gsu.edu.

Financing Subnational Governments with Decentralized Taxes

Roy Bahl*

Andrew Young School of Policy Studies, Georgia State University, Atlanta Georgia

This paper is about the case for assigning taxing powers to subnational governments, and about the structure of this revenue assignment. As Musgrave (1983) put it in perhaps the seminal paper on this subject, “Who Should Tax, Where and What”? This review reconsiders the Musgrave questions after 25 years, asks whether the international trend in tax assignment is in step with what economists have prescribed, and concludes with some thoughts about the most likely future for the decentralization of tax systems.

We begin with a discussion of the concept of revenue assignment, and with the theoretical justifications and a priori reasoning usually given for revenue assignment to subnational governments. A basic issue taken up in this discussion is whether the practice matches up with the theory. In the following section, we turn to a consideration of the case for

* Regents Professor of Economics, Andrew Young School of Policy Studies, Georgia State University, Atlanta Georgia. (rbahl@gsu.edu). In writing this paper, I benefitted from discussion with Richard Bird and from a reading of his paper “Tax Assignment Revisited” (2008). I acknowledge the valuable research assistance of Yared Seid in the preparation of this paper.

decentralizing each of the major tax bases. Throughout this discussion, we distinguish among industrial, transition and developing countries.

CURRENT MODELS OF SUBNATIONAL FINANCE

Perhaps as much as by any other factor, subnational government financing systems are differentiated according to how much taxing power is decentralized. The assignment of taxing powers gives revenue raising autonomy to subnational governments and is consistent with the goals of fiscal decentralization. Most students of fiscal decentralization would argue that revenue raising power at the subnational government level is a necessary condition for successful fiscal decentralization. Simply assigning larger shares of central government tax collections may fill the vertical financing gap for subnational governments, but it will not give them autonomy to determine the size of their budget.

It is no easy matter to measure and compare the degree of tax decentralization across countries. Even the concept of a “subnational government tax” is confused. In theory, the subnational government could be given a range of powers to use in determining the level of taxes it will raise:

- Determine the tax rate
- Determine the tax base
- Collect the tax
- Receive all of the revenues

A complete separation of central and subnational taxing authority would imply that subnational governments have the power to control all four dimensions of tax policy and administration. However, the only necessary condition for subnational government taxation, many would argue, is the power to set the tax rate (Bahl and Bird, 2008; Bahl and Linn, 1992).

The gray area in this definition are derivation-based intergovernmental transfers, i.e., the case where a share of the revenues from a central tax is allocated to the regional government on a basis of origin of collection. The Chinese follow such a revenue sharing system, as do most Eastern European countries. It might be argued in this case that the subnational governments can have an impact on revenues received through their promotion of local area economic development (growth in the tax base). To the extent they also have responsibility for tax administration, they may have an even greater influence on the growth in the tax base.¹ Still, subnational governments have no power to directly affect revenues by changing the tax rate or the tax base.

As to current models of tax decentralization, four general approaches may be identified. Each of these revenue assignment models leads to a different outcome in terms of the autonomy given to state and local governments.

First, and most consistent with the goals of fiscal decentralization, is the assignment of taxing powers and tax administration responsibility to subnational governments, e.g., as in the US and Canada. A second arrangement is for the subnational governments to piggyback on a central government tax base. Under this regime, the subnational government sets the tax rate, but the central government defines the base and administers the tax. Third, the tax rate and base may be set by the central government, but responsibility for collection may be assigned to the lower level governments. The subnational governments then are given a prescribed share of collections. This is more or less the system used in Germany, and for certain taxes in many transition countries including China.

¹ The dual subordination issue in tax administration is discussed for the Russia case in Martínez-Vazquez, Rider and Wallace (2008), and for China in Bahl (1999).

Finally, the central government may set the tax rate and base, and collect the tax, but assign a portion of collections to the subnational government. The return may be on a derivation basis or on a formula basis. This is the system that operates in many developing countries, and is least in step with the concept of tax autonomy. It is best viewed as a form of intergovernmental transfer.

One cannot rely on secondary data to classify countries according to which of these four models they have adopted. The available data sets that allow international comparison do not adequately take account of the discretion that subnational governments have in setting tax rates and determining tax bases.² In particular, the IMF *Government Finance Statistics* (arguably the only comparative data available) does not distinguish among the first three approaches to subnational government finance.³

REVENUE ASSIGNMENT: THEORY AND PRACTICE

The traditional starting point for thinking about tax assignment is Musgrave's (1983) multi-level budget framework that would assign the stabilization and distribution functions to the central government and allocation responsibility to the local governments. This division of responsibility leads to guidance about the placement of various instruments of taxation at the central, "middle" and local government levels.⁴ Progressive taxes with a distributional goal and

² For a good discussion of problems with the measurement of revenue decentralization, see Ebel and Yilmaz (2003).

³ The World Bank has recognized the need for differentiating revenue assignment from revenue autonomy and is developing a set of *Qualitative Decentralization Indicators*.

(<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPUBLICSECTORANDGOVERNANCE/EXTDSRE/0,,contentMDK:20259516~isCURL:Y~menuPK:2086395~pagePK:210058~piPK:210062~theSitePK:390243,00.html>). So far, these data are only available for 31 countries. The OECD (1999) also is developing a set of indicators of tax decentralization which takes account of the control over various taxes by subnational governments. However, these data are only available for OECD countries.

⁴ Paradoxically, most discussions of fiscal federalism are more suited to the situation that might exist in a unitary country. In fact, most studies that give theoretical guidance are relatively vague about how taxes would be divided

taxes containing automatic stabilizers would be left with the central government. Subnational governments would rely mostly on those taxes levied against relatively immobile bases.

Most economists still hold to the Musgrave rules as the basic organizing principles for a fiscal federalism.⁵ But the theory and certainly the practice have moved on. Later work focused on the importance of competition among subnational governments as a way of controlling the size of governments (Brennan and Buchanan, 1980), on taxing non-residents for benefits received and on the political economy of decentralized tax assignment (Hettich and Winer, 1999, Lockwood, 2006). This thinking has explained the case for some claim on mobile tax bases by subnational governments. In terms of the contemporary practice, subnational governments now have taken on a substantial redistribution role, regularly use tax policy to stimulate their economies, and have been assigned major expenditure responsibilities. Moreover, “things have changed”. Economic integration in Europe and the reality of elected government in the developing countries have stimulated the demand for fiscal decentralization (Bahl, 2008; Stegarescu, 2009).

The present practice of tax assignment is guided by many more considerations than economic efficiency. It would seem to rely more on a set of disparate arguments for and against passing more taxing powers to subnational governments, and on assessing the probability that any particular tax decentralization strategy could be implemented. As Oates (2008, pp 329-330) has put it in commenting on the newer political economy approach, “While the form of the analysis has new elements, the nature of the problem remains essentially the same: the issue is one of a tradeoff between the capacity of a centralized solution to provide “coordination” of local outputs (i.e., internalize spillover effects) and the ability of a decentralized system to tailor

between the state (provincial) and local government levels.

⁵ For a good discussion of Musgrave’s lasting contributions to the tax assignment question, see Bird (2008).

outcomes to the preferences ... of the local jurisdiction”.

“Why subnational government taxes, how much taxing power should be decentralized, and which taxes should be subnational?” are questions that are now answered many ways. The answers are likely to be very different for countries at different stages of economic development. In the next three sections of this paper, we revisit three old questions: “Are there net economic gains to be had from the imposition of independent subnational government taxes?” “Under what conditions is a subnational government tax preferable to a user charge or an intergovernmental transfer?” and “What are the norms for a good subnational government tax?”

The Benefits and Costs of Subnational Government Taxes

The decision to decentralize more vs. less taxing power to state and local governments implies costs and benefits. Some of these costs and benefits have to do with economics but others are about bureaucratic politics, technical issues of tax administration, social equity, a paternalistic central attitude toward local government, and the degree to which the central government sees itself as the guardian of tax policy. On the expenditure side, the decentralization theorem is straightforward: push all expenditure responsibility down to the lowest level that is consistent with efficiency considerations. On the revenue side, the rules are much less easy to state.

Potentially, the core benefit from increased revenue assignment is the welfare gain that results from financing decentralized services with decentralized taxes. This gain will be greater or smaller depending on the extent to which local government taxation is necessary to ensure full accountability of elected local officials. And, there are other considerations:

- Under what conditions can tax decentralization be key to effectively imposing a hard budget constraint on sub national governments?

- Will tax decentralization lead to revenue competition between central and local governments and a dampening of overall tax effort, or will it lead to an enhancement in overall revenue mobilization?
- Will subnational government taxation lead to higher overall costs of tax administration?
- How can the fiscal disparities that come with the decentralization of taxing powers be dealt with?

These issues are taken up in the discussion below.

*Accountability.*⁶ Most students of fiscal federalism link revenue assignment to the welfare gains from the decentralization of service responsibilities. Locally imposed taxes make locally elected officials more accountable to their voting population for the public services that they deliver, i.e., more accountable than if the services were financed by intergovernmental transfers. More accountability, *cet. par.*, translates into “better public services” which in this case means that people will get more of what they want. It should follow that they will be more willing (or less resistant) to paying for it. This in turn would drive down the cost of revenue mobilization.

The benefits of accountability (local voters get what they want from their elected officials) might be missed in many developing and transition countries. The electoral process might not be open and contested (China and Vietnam) or elections may have been suspended (Nepal). Voters are less mobile and in some cases have not learned how to use the vote to hold their officials accountable. Moreover, the central government may have held on to taxing powers so that the local government revenue structure is dominated by intergovernmental transfers. To the extent taxpayers perceive a linkage between what they pay and the services they get, they will tie service benefits more to the level of grants than to the level of local taxes.

⁶ See Bahl and Bird (2008).

Even more likely, the benefits from increased subnational government taxes could be so negligible as to go unnoticed. The same will be true in industrialized countries with highly centralized fiscal systems (Spahn and Föttinger, p245). Finally, under such a centralized system, the process of making a decision to increase spending (and taxes) is not a transparent one and the voters may not know who to hold accountable.

Hard Budget Constraint The conditions for fiscal decentralization with fiscal responsibility are that subnational governments should have autonomy at the margin in determining revenue and expenditure levels and that they should be required to balance their budgets. An interesting question is how much discretion at the margin is necessary to achieve this outcome. It is not possible to put a firm number to this margin, but clearly it will vary with the amount of expenditure assignment to the subnational government. For example, a subnational government with responsibility for no more than basic housekeeping functions (e.g., most rural local governments) will need less revenue discretion than will a provincial government with extensive social service responsibility (e.g., Spanish provinces). In many industrialized countries the answer is that a considerable amount of taxing power has been devolved – the OECD average is 25 percent of all taxes (Table 1). In developing countries, the answer seems to be that very little should be devolved – the average is less than 10 percent.⁷

With this concept of marginal discretion in mind, we might think of the following taxonomy of local governments. If they have no expenditure or revenue discretion and balance their budgets, they are little more than spending units of the higher level government. If they have important expenditure responsibilities and expenditure discretion, but inadequate authority to raise revenues, they may choose to incur deficits. If the subnational governments are given discretion on both sides of the budget, but if the central government stands ready to cover

⁷ Though the IMF data are used here, the shortcomings, as discussed above, should be kept in mind.

overspending with ad hoc grants and other forms of subsidy, deficit spending by subnational governments is all but guaranteed. If the subnational governments are given independent taxing powers and expenditure discretion, and if the central government is committed to fiscal discipline, (a hard budget constraint rule), balanced budgets can be guaranteed. If there is to be tax decentralization and fiscal responsibility, the local government must have authority to increase tax revenues in line with the expected range of natural and discretionary increase in assigned expenditure responsibility. Moreover, the subnational government should have the power to increase revenues for the fiscal year in which the deficit might occur, e.g., via a rate increase or the adoption of new tax.

An “adequate” margin is one condition for fiscal discipline. The other is a well-structured grant system where the amount that each local government may expect in any given year is fixed before the budget is formed. If grants are negotiable, i.e., if the senior level government is soft on the size of entitlements, tax discretion will not lead to fiscal discipline because local governments will overbudget with the expectation that their deficits will be covered.

Japanese local governments have incurred an increasing financing gap, which has been covered by central government transfers and subsidies in one form or another. A so-called “trinity reform” will address this problem by replacing a significant amount of grant funding with local government taxation authority (Ikawa, 2008). The German Lander regularly run deficits and finance these by short and long term borrowing (Rodden, 2003). Because of the equalizing nature of intergovernmental fiscal transfers, the poorer Lander have little incentive to restructure their fiscal system to find sustainable budget balance (Spahn and Föttinger, p244-245).

Subnational governments in most low income and transition countries often have quite a limited margin, even by comparison with their assigned expenditure responsibility. And where they do have revenue discretion, it may be limited by a ceiling rate, or it may be over the more contentious levies such as the property tax, agricultural taxes or user charges. Of course, subnational government revenue discretion is not a sufficient condition for fiscal responsibility, as the cases of Brazil and Argentina demonstrate.

Increased Revenues? Will increased subnational government taxing powers lead to a higher or lower overall (central plus local) level of revenue mobilization? One could argue that there would be a dampening effect, for two reasons. First, the voting population at the subnational government level might not buy into the idea that higher taxes will result in better services.⁸ They might be more persuaded that these new revenues will lead to over-bloated payrolls and perquisites for local officials, or will be spent to satisfy the whims of bureaucrats and politicians rather than voters. Moreover, better-off families in some industrial countries have good substitutes for many local government services (e.g., private schools, security, and refuse collection), so they might be hesitant to vote a tax increase on themselves. The result could be that the newfound taxing powers of subnational governments would go unused. The tax revolt in the US, that was initiated by California's proposition 13, was implemented by referenda and by voter imposed, permanent limits on tax levels.⁹

A second reason to expect a dampening effect on aggregate revenues is that increased subnational government taxing power may encroach on the taxing space of higher level governments. The result of higher local government taxes may be that voters will resist future increases in central government tax rates. A related problem is that higher joint tax rates and

⁸ They may have the same view about higher central government taxes, but feel that central government decisions are too far removed from them to have an influence.

⁹ For a good discussion of the tax limitation movement in the US, see Mullins (forthcoming).

dual administration might lead to reduced compliance rates. For example, Plamondon and Zussman (1998) estimate that a single administration of the Canadian federal and provincial business taxes would reduce compliance costs by 1.3 percent of collections.

The contrary argument is that decentralization on the tax side of the budget would enhance overall revenue mobilization. This could be due in part to a greater willingness to pay for services delivered under a decentralized fiscal system. It also could be due to some overall base-broadening that might result from dividing tax bases according to comparative advantages in assessment and collection. Subnational governments have comparative advantages in reaching some of those who are “hard to tax” under central government regimes. The result of tax decentralization in such cases may be a net revenue gain.

These “informational advantages” of subnational governments which is most relevant to the case of developing and transition countries (Bahl and Bird, 2008a), can take many forms. Often, for instance, state and local governments oversee a variety of licensing and regulatory activities, and they track property ownership and land-based transactions. They thus have ample opportunity to identify local businesses and to gain some knowledge about their assets and scale of operation. Because the potential revenue gain is much more important for them in relative terms, subnational governments have more incentive to carry out such activities than do national governments. This provincial and local government knowledge of the tax base may allow them to capture some of those who presently do not fully comply with national taxes, or evade taxes altogether. This would include the self-employed --- including small businesses --- who often underdeclare taxable income and consumption.

There is another factor that suggests a revenue enhancement effect from decentralization. “New taxation” might lead to an overall revenue increase. In many countries, provincial and

local governments have broadened their tax net with a variety of special tax instruments and administrative measures such as levies on the sales of assets of firms, licenses to operate, betterment charges and various forms of property and land taxation (Bird and Wallace, 2004; Bird, 2006).

What is the verdict? Does increased subnational government taxation crowd out central revenues and reduce overall revenue mobilization, or is it revenue-enhancing? There is not much empirical evidence on this question. Lotz (2006) has observed that there is no clear conclusion as to whether decentralized taxation power leads to an increase in the overall level of taxation. He points out that the Nordic countries have high overall levels of taxation and high levels of tax assignment to subnational governments, but Austria and Switzerland have high levels of assignment and lower levels of taxation. Some might see the pattern as more related to history and culture than to economic factors. Bahl and Cyan (2009) have carried out an econometric analysis of “crowding out” for 58 developed and developing countries in the 1990s. They find evidence that increased local taxes do lead to reduced levels of central taxes for higher income countries with more open economies, but not for developing countries.

Tax Administration An argument often made against proposals to decentralize taxing powers is that it would not take advantage of the superior tax administration capabilities of the higher level governments. The result of shifting collection responsibility from more to less efficient administrative regimes will be an increased cost of collection for any given amount of tax revenues. While this proposition is almost always discussed in the case of developing countries, it could hold true to some extent for industrialized countries as well.

- Central government tax administration can capture economies of scale. This might include centralized EDP services and record-keeping, uniform approaches to assessment and audit, the development of centralized training programs, etc. (Vehorn and Ahmad, 1997).

- Large taxpayers (companies) often operate on a country-wide basis, and also account for a significant share of total national revenues. Taxes on their operations can be most effectively administered (and allocated) by the national tax administration.
- Some sectors are harder to tax under a state or local government administration. For example, services and internet sales are not easily reached under the state sales tax in the US because of cross-border complications.
- The enforcement of tax collection requires the administering of penalties and possibly court actions that are beyond the reach of many subnational governments. Moreover, local governments in particular are close to the taxpayers who might be penalized, whereas provincial and central governments are one or several steps removed.
- The objectives of national policy may force central control. For example, the distribution objective of the income tax might require a central design and administration of the tax, industrial policy might dictate central administration of the tax on company income, and taxes on international trade are too locked in to trade agreements and valuation complications to be effectively administered by subnational governments.
- Fairness in taxation requires a uniform implementation of the tax code, and this is best done by a single (national) tax administration.

All this said, there are some areas of tax administration where central governments do not have a comparative advantage. In terms of all three of the basic functions of tax administration – identification of the taxpayer, assessment of tax liability, and collections – subnational governments might have a comparative advantage for certain taxes or for certain segments of the tax base.¹⁰

There is an especially strong administrative case for the property tax to be a local government levy. Local governments have a comparative advantage in identifying the tax base, because of their familiarity with local land use patterns. The methods of building a tax roll and valuing properties require site visitations, identification of ownership, and the tracking of improvements to properties. Central government administration of the land tax, where this is

¹⁰ For good discussions of comparative advantages of local and central governments in tax administration, see Mikesell (2007), and Martinez-Vazquez and Timofeev (2004).

practiced, might work in a small country (e.g., Jamaica) but has not been very effective in large countries (e.g., Indonesia).

The other comparative advantage for subnational government taxation relates to small taxpayers, who usually are less easily reached by central tax systems. Tax authorities in many developing countries bemoan the fact that the self-employed and the informal sector mostly escape taxation. In developing and transition countries, most revenues from major central government taxes can be traced to a relatively small number of taxpayers. The individual income tax is paid mostly by the formal PAYE sector of the economy and the VAT by larger firms. Not only are these failures at capturing the low end of the tax base recognized, they are institutionalized in that many developing countries set relatively high thresholds for the broad tax bases:

- It is common for the VAT threshold to be set relatively high in terms of gross sales, precisely to exclude small tax payers that are not cost effective to reach.¹¹
- The exemption level for the individual income tax sometimes is above the average income level. This is done partly to guarantee subsistence levels of after - tax income, but partly to recognize the collection difficulties for income earned outside the formal sector of the economy.
- Corporate income taxes often cover only large firms.

Tax Assignment and Expenditure Assignment

The correct revenue assignment to subnational governments depends on the expenditure responsibilities assigned to that government. (Bahl and Linn, 1983, 1992). Only when expenditure assignment is taken into account can the efficient level of local taxes be determined.

For publicly provided goods and services, where the benefits accrue to individuals within

¹¹ For a discussion of VAT practice, see Bird and Gendron (2007).

a jurisdiction and where the exclusion principle can be applied in pricing, user charges are the most efficient financing instrument. This is a particularly relevant argument for public utilities such as water supply, sewerage, power, and telephones, but also for public transit and housing. These services may involve some external benefits, but most of the benefits are likely to be local in nature.

Other local government services, such as general local administration, traffic control, road maintenance, street lighting, security, primary schools, local clinics and parks and recreation are local public goods whose primary benefits accrue to the local population. The same may be said, at the provincial or state government level, of secondary schools, universities, mental hospitals, trunk roads, bridges and the like. However, here the exclusion principle in pricing cannot be applied. These services are most appropriately financed by taxes whose burden is local (provincial).

For services in which costs or benefits spill over local boundaries -- such as health, higher education and certain types of infrastructure expenditures-- provincial or national intergovernmental transfers should contribute to financing. Full local financing would lead to under-provision of these services from a regional or national perspective, and full financing from transfers would not recognize local benefits.

This efficiency justification for subnational government taxation, and the link to expenditure assignment is important. It enables us to restate a basic principle of intergovernmental fiscal reform: determine expenditure assignment *before* working out the revenue assignment and revenue-sharing provisions. Otherwise, it is not possible to develop an efficient mix of revenues for the local authorities.

What Is a Good Subnational Government Tax?

The (updated) traditional view on this question is well summarized by Oates (1996, page 36):

“(1) Lower levels of government...should, as much as possible, rely on benefit taxation of mobile economic units, including households and mobile factors of production. (2) To the extent that nonbenefit taxes need to be employed on mobile economic units, perhaps for redistributive purposes, this should be done at higher levels of ...government. (3) To the extent that local governments make use of nonbenefit taxes, they should employ them on tax bases that are relatively immobile across local jurisdictions.”

This traditional view, narrowly interpreted, leads to a recommendation that (third-tier) local governments should choose immobile tax bases that are easily administrable. In many countries this means narrow-based taxes that are not revenue productive (and are of not much interest to higher level governments). But Oates’ argument for subnational government benefit charges also makes the case for local taxation of mobile factors. An important footnote to this “rule” is that factor mobility and thus efficient tax choices will depend on whether the subnational government is a municipality, a metropolitan region or a province. In general, factor mobility will be less of a constraint in larger taxing regions.

Of course resource allocation is not the only criteria that is used in revenue assignment. Various countries have made the assignment decision based on revenue needs and administration criteria. For example, developing countries rarely devolve personal income or payroll taxes to sub national governments because the central government feels too pressed to give up any access to the income base. The same may be said of general consumption taxes and the more revenue productive excises. Most industrial countries, by contrast, seem quite willing to decentralize broad-based taxes.

Where does this leave it in terms of some basic principles for choosing a “good” subnational government tax? Public finance economists and practitioners often recite revenue

adequacy, economic efficiency, vertical equity, administrative feasibility, and political feasibility as the goals, but are not always in agreement about which taxes should be assigned to which level (Bahl and Linn, 1992; McLure, 1998; Martinez-Vazquez, 2008; Bird, 2008).

Revenue Adequacy The primary goal for subnational government taxation is to raise revenues to meet assigned expenditure needs. If tax bases that cannot yield adequate revenues at reasonable rates are assigned, the result is likely to be both deficient public services and a haphazard gap-filling strategy that includes the imposition of a variety of undesirable and distortionary fees, levies and informal charges.¹²

The revenue adequacy criteria suggests that any potential revenue source should be evaluated in terms of two “yield” characteristics. First, the base should be broad enough so that adequate revenues can be raised at a reasonable tax rate. An “adequate” level of revenues will depend on the expenditure responsibilities that have been assigned to the subnational government. If the government has adopted fiscal decentralization as a development strategy, and has assigned important functions to subnational governments, a subnational government tax base that is cobbled together from the “minor” taxes – property, entertainment, restaurants, signboards, etc. – will not be adequate to cover the service delivery costs. Neither will reliance on politically and administratively difficult taxes (e.g., agricultural income tax, property tax) allow provincial or urban local governments to move measurably closer to becoming self-sufficient in terms of financing.

In the case of many industrialized countries with a tradition of decentralization, broad-based taxes have been assigned to the subnational governments. For example, subnational governments are empowered to tax income in the Nordic countries, Spain, and Switzerland, and

¹² In the 1990s, local governments in China dealt with revenue shortfalls by imposing a number of ad hoc, extra budgetary levies. The central government took action to abolish these levies (Bahl, 1999).

to impose general sales and income taxes in the United States and Canada. But there are some industrialized countries where the subnational governments do not levy broad-based taxes. These include Australia, the Netherlands, and Japan.

In the case of developing countries, it is much more common to find that the power to levy broad-based taxes is reserved for the central government. There are a few exceptions such as the state level value added taxes in Brazil and India, and the general sales tax in Argentina, but mostly the broad based taxes are denied the subnational governments. A striking finding reported in Table 2 is that relative to GDP, subnational government taxes are five times greater in OECD than in developing countries.¹³ However, as Stegarescu (2005) points out, the IMF data overstate the actual taxing autonomy of the sub national governments in OECD countries.

Second, and contrary to the above, it is frequently argued that subnational government tax bases should be stable rather than cyclical, because subnational governments often provide essential public services. Moreover, subnational governments (usually) cannot budget for deficits, so they do not have a borrowing route to smooth out erratic revenue flows. By this reasoning, subnational government taxes on minerals or agricultural products that sell in world markets, for example, are not a good policy idea.¹⁴ In terms of the practice, some industrial countries do allow subnational governments to tax national resources but in developing and transition countries this is rare. The same caution might be raised about taxes on profits. Income and consumption tax revenues are also subject to economic downturns, but the general view is that this can be dealt with by tax rate increases or expenditure retrenchment. The property tax, the mainstay of local government finances, is probably the least sensitive to economic

¹³ For the sample of countries reported in Table 2, which varies from period, there is not evidence that the revenue buoyancy with respect to GDP has exceeded unity.

¹⁴ Musgrave (1983, p11) also argued that in principle, “tax bases which are distributed highly unequally among sub-jurisdictions should be used centrally.”

downturns.¹⁵

There is a pecking order among subnational governments with respect to the need for a broad-based and elastic tax structure. Certainly the greatest need would be for the larger state and provincial governments in federations, and in some unitary countries, because they have the greatest revenue raising potential, and because they often are assigned more important expenditure responsibilities. The revenue base of the large urban governments also should include some access to broad based taxes, in part because their service delivery needs are usually greater, and in part because it is often a goal of public policy to make these local governments more self-financing than others. Rural local governments can develop their fiscal systems with the property tax and with user charges, fees and intergovernmental transfers. In most countries, there is not the expectation that rural local governments will become financially self-sufficient.

Administration A good subnational government tax will allow collection of a target level of revenues at a reasonable administrative cost. This is an appealing objective, but not one that is easily translated into policy advice. The question of a “reasonable” administrative cost for subnational governments is not easily pinned down. Even the concept of collection cost is not generally agreed. The common practice is to measure administrative cost against collections, but the thinking here is flawed. Collection costs can be low by such measures precisely because of a poor assessment or collection effort. If the goal is to choose a tax based in part on its collection cost, the better measure would be the cost of collecting some normative, *target* amount.

Even if one could find an answer to the question, “What is the least cost method of raising \$x in revenue?” this may not be the best guideline for policy because there are so many other important considerations. For example, the property tax is notoriously costly to administer well, but almost everyone advocates it as a local government tax. It might be argued that the

¹⁵ At least this was the conventional wisdom before the dramatic decline in US housing prices in 2008.

higher cost of local government property taxation (vs. some other tax) might be justified by the potential accountability gains that come with it. Or, a local government excise tax on a cigarette factory might be administered at a low cost per dollar of collections, but because of tax exporting it might impose welfare costs that offsets these administrative savings.

In the industrial countries, administration is not usually a binding constraint in the tax assignment decision. The state/province level tax administration usually is efficient, and where they are not, the central government serves as the collection agent. The industrialized countries are able to take advantage of the formality of their economies to mix and match tax administration styles to find an administrative regime that works.¹⁶

By contrast, administration is usually the most binding constraint on the tax assignment decision in developing countries. For some of the broad-based taxes that are levied on businesses (e.g., income tax, VAT), provincial or local government assignment is possible only for the largest provinces/states because of the book audit required in the tax administration. Most subnational governments in developing countries tend not to have the personnel or the budget to carry out such tasks. Moreover, taxes on business income or value-added are levied on a company basis rather than a plant basis and the tax administration cooperation required among subnational governments usually is beyond the present level of administrative capacity.

There are several ways for subnational governments in developing countries to overcome the tax administration constraint.

1. Subnational governments might be restricted to choose only those tax bases that are easily administered. Provinces and some of the larger cities might concentrate on individual income taxes, certain selective sales taxes, operating licenses for large businesses and taxes on the use of motor vehicles. To date, this has not been common practice. Smaller local governments would concentrate on formal and presumptive levies on shops, motor vehicles, factories, registered professionals, and real property. The

¹⁶ For a good discussion of the factors underlying the choice between centralized and decentralized administrative regimes, see Martinez-Vazquez and Timofeev (2004).

practice is more or less in step with this advice.

2. Administrative costs may be kept in check by limiting the number of taxes included in the system. In a sometimes desperate search for revenues, subnational governments will pile on many specific local levies, e.g., entertainment and advertising taxes. These tend to be costly to collect and sometimes arbitrary in their administration. Moreover, they siphon off administrative resources from the more (potentially) revenue productive levies.
3. Subnational governments might find ways to compensate for what otherwise would be an expensive tax administration cost. An example is shortcuts to administering the property tax which might include substituting tax mapping based on site visits for more detailed and expensive aerial mapping, or using area-based assessments instead of more sophisticated parcel-by-parcel approaches based on comparative values.
4. Subnational governments could piggyback on the tax base of the higher level governments thereby holding rate setting powers while avoiding any tax administration responsibility. In practice, this is rarely done.
5. Another way to lessen the administrative problem is to invest more in the administrative infrastructure of subnational governments. Too often central governments back away from significant revenue assignment to subnational governments on grounds that the administration is too weak to absorb significant taxes. To make the prophecy come true, they hold off on financing administrative improvements such as advanced EDP systems, appropriate training programs for subnational government officers, and the passage of tougher enforcement laws to support collection efforts.

Sometimes high administrative costs do not deter the assignment of a tax to subnational governments. For example, the administration of the property tax -- particularly the job of valuing parcels -- is notoriously hard to do and expensive if done right. The taxation of small business is also costly because it often is not based on self-reporting systems and requires considerable field work in the assessment and collection process.¹⁷ Yet both types of tax are levied by local governments in many developing countries.

Correspondence between Benefits and Burdens If a subnational government is able to export the burden of its taxes to (non-benefitting) residents in other jurisdictions, then its residents will vote to spend more than they would have if there had been no tax exporting.

¹⁷ For a good discussion of the complications that arise from presumptive taxes on small businesses, see Engelschalk (2004).

While this situation is the dream of local politicians, it leads to an efficiency loss that usually is not in the public interest.

The correspondence principle would limit subnational government tax choices to those taxes whose burden cannot be exported (to non-beneficiaries). Those who receive the benefits of expenditures made by a subnational government should bear the burden of the taxes levied by that subnational government. This version of the traditional “no-exporting” rule for subnational government taxation does provide for the taxation of mobile factors in the case of non-resident beneficiaries. A non-resident who commutes into the province to work could be charged (a portion of) the provincial wage tax, or non-residents who shop in city markets could pay the local consumption tax, in both cases on grounds that they use city services. For example, city and county government retail sales taxes are widely used in the US.

The correspondence principle would seem to rule out the assignment to subnational governments of origin-based consumption taxes and corporate income taxes. But, there is probably some exporting of burdens for nearly all taxes. For example, a significant portion of the property tax – that levied on firms who sell in national markets or are owned by non-residents – is probably exported. This is a small error, by comparison, say, with allowing a local government to levy an excise tax on a soft drink bottler who sells in a national market. The acceptability of a tax whose burden is exported will depend on degree.

Vertical Equity Subnational governments are probably ill-advised to design their tax system around vertical equity considerations. There are a number of reasons for this advice. First, income redistribution is a component of national social policy, with targets set by the central government. If the tax system is to be progressive, let this be part of a central design. Second, subnational government pursuit of redistribution through the tax system is likely to be

thwarted by migration and tax compliance problems. Third, local government taxes usually are blunt instruments and do not do a good job with income redistribution. Fourth, the expenditure side of the budget might be the better route for subnational governments to deal with the quality of life for low income families.

On this matter, there is a difference between developing and industrial countries. In this former case, the approach to recognizing vertical equity in subnational tax structures is more often ad hoc than it is based on a careful estimate of the impact on income distribution. It usually takes the form of adopting some reform that is thought to minimize payment burdens on those with income below the poverty line. Examples would be to a decision to exempt the lowest valued premises from the property tax, to not impose taxes or charges that would deny the very poor access to basic services, and to consider cross subsidization in setting user charge rates so as to protect those families with incomes below the poverty level.

Industrial countries often do more fine tuning to achieve distribution effects. In the US, for example most state governments exempt food from their retail sales tax, largely out of a concern for vertical equity. Fletcher and Murray (2008) report that in 2005, 34 US states used progressive personal income tax rate structures. Spain is an interesting example in this regard. Regional governments in the autonomous regions may adjust their individual income tax rate schedule, but with the proviso that the rate schedule must be progressive and have the same number of brackets as the central government income tax (López-Laborda, Martínez-Vázquez and Monasterio, 2007).

The Dangers of Subnational Government Taxation The rules for good tax choices seem clear enough, but politics and self-interest often get in the way of good economics. Central governments would like to ensure that it is not possible for a province to export the tax burden to

non-residents and that the provincial or local tax base is visible enough to ensure accountability. Subnational government officials are likely to see things quite differently, i.e., tax exporting would be politically popular and a lack of transparency in the tax system could provide political cover. Depending on how the bargaining over tax assignment turns out, the danger is a welfare cost of resource misallocation.

A second danger is that the overall success of a fiscal decentralization program could be compromised if the tax assignment decision is badly made. Unless subnational governments have some significant degree of freedom to alter the level and composition of their revenues, full accountability cannot be achieved. At a minimum, some degree of rate flexibility with respect to a significant component of local revenues is essential if the budget is to be responsive to local needs and if local leaders are to be accountable to their citizens.

Some argue that a potential danger in permitting provincial and local governments even limited freedom to tax is that they will not utilize fully all the revenue sources that are open to them. This could allow the level and quality of public services in their region to deteriorate -- a version of the infamous "race to the bottom." By another reckoning, perhaps this is not so great a danger. If expenditure assignments are properly organized, this should not be a problem (Bird and Slack, 2008). If the service in question is one of national importance or one in which there is a strong national interest in maintaining standards, it should presumably be funded and monitored by the central government. If it is not a matter of national interest, why should the central government be concerned if one region chooses more or less government than another?

A decentralized tax system will feature fiscal disparities because subnational governments will have very different capacities to raise revenues. Some will choose higher tax rates and some will choose lower tax rates. Central governments bent on keeping fiscal outcomes

uniform should not embrace fiscal decentralization. Decentralists, on the other hand, will argue that provincial and local government taxes are best viewed as benefit charges for locally provided services and they should vary from place to place depending on voter preferences. An equalizing grant system can go some way toward reducing the fiscal disparities that will arise with tax decentralization, but significant gaps in public service levels inevitably remain. The danger is the political unrest that can come with non-uniformity and fiscal disparities.

Finally, there are issues of political control and sovereignty. In some industrialized countries, where traditions of decentralized governance are strong, tax decentralization is seen as an entitlement by subnational governments. In the US, for example, there is formidable state level resistance to a national sales tax on grounds that it would encroach on state sovereignty. In developing countries, central ministries of finance guard against decentralizing taxing powers on grounds that this could compromise macroeconomic policy. Central governments in low income countries seem more willing to dedicate a share of national taxes for financing decentralized services than to decentralize rate setting powers.

TAX CHOICES FOR DECENTRALIZATION

With all of these considerations taken into account, do we conclude that there are tax choices available to subnational governments that will generate adequate revenue? Is this set of choices more limited for developing and transition vs. industrial countries? Do the choices that have been made conform with the principles for good revenue assignment? The answers given here to these three questions are “yes”, “yes, in the short run” and “not always”.

Individual Income Tax

The individual income tax can meet most of the tests for a good subnational government tax. It can generate significant revenue from an elastic tax base, and it is roughly consistent with the correspondence principle in that the burden falls mostly on those who benefit from the services provided. Correspondence problems do arise with respect to those who cross provincial borders to reach their place of work, and there is an incentive for jobs and for those who receive capital income to migrate to lower taxing jurisdictions. The former problem might be resolved with a residence-based income tax, where non-residents file returns and pay an amount that would serve as a benefit charge for local services received. (McLure, 1998).

Income taxes work better if levied by jurisdictions that cover most of the commuting range. For example, states/provincial work better than metropolitan areas, metropolitan areas work better than cities, etc.

In the industrial countries, subnational government income tax administration has been shown to be feasible. The PAYE portion can be assessed and collected at the place of work with relatively little difficulty. The “hard to tax” informal sector should be no more difficult a task for provincial/state governments than it is for the central government, and the collection rate should be no lower under a decentralized than under a centralized tax system.¹⁸ Income taxes on capital sources (dividends, interest, rents) can be easily collected by states and provinces on a residence basis if there are information sharing agreements with the federal government. Moreover, administrative difficulties can be circumvented by a piggyback arrangement where the central government defines the base and takes responsibility for collection while allowing local governments to set sur-rates.

¹⁸ However, if there is a dual administration of the tax, compliance costs may rise and drive down collection rates.

State and local government income taxes are levied in many industrialized countries. Slack (2006, p.106-107) reports that income taxes represent the most important source of subnational government tax revenues in 13 of the 27 OECD countries. The approach to subnational government income taxation, however, varies among countries. The US and Canadian model is for a state government tax, with state discretion to define the tax rate and the tax base. The Swiss model is similar to that of the United States. Cantons levy an individual income tax and also permit local governments (communes) to levy surcharges at locally-established rates on the cantonal income taxes (Dafflon, 2008). Like some U.S. state government income taxes, the Swiss subnational government income taxes are not fully harmonized with the central income tax.

The case of Spain is different. The regions are divided into an autonomous group and a charter group. The former may levy a personal income tax and have some discretion over the tax rate. But, the tax base is common with the central government and collection is centralized. In the case of the charter regions, the subnational governments have full control over income tax policy and administration, much as is the case for US states (López- Laborda, Martínez-Vázquez, and Monasterio (2007).

Under the Nordic model (Lotz, 2006), the central government collects the tax, but local governments have discretion to set the tax rate. In Norway, however, local governments may not exceed a centrally – set maximum rate and most local governments are at the ceiling. These local income taxes are levied at a flat rate on the same tax base as the national income tax. Provincial personal income taxes in Canada also are collected by the Federal government. The German arrangement is unique. The *Länder* are responsible for collection, but have no authority to set the tax rate or determine the tax base. In effect, there are no subnational income taxes in

Germany.

Subnational government income taxes are rarely found in developing countries. Very few subnational governments have the ability to maintain a tax roll, or to do the necessary audit to police the compliance. Even under a piggyback arrangement -- which gets around these administrative constraints -- the tax base would be concentrated in a very few local governments and most would be shut out. There are two other forces pushing toward centralization of the individual income tax. One is that central governments may rely heavily on this source of revenue, and even central governments often have trouble collecting much from the personal income tax (Bird and Zolt 2005). The second reason is that income taxes often carry income distribution goals and these are perceived to be the exclusive responsibility of the central government.

In a number of transition economies, subnational governments have been assigned significant shares of income tax revenue. At present in Russia, for example, 100 percent of individual income tax revenues are shared with subnational governments. A 60 percent share is allocated to provincial governments in China. Dillinger's (2007) review of the practice in eight eastern European countries indicates that the individual income tax sharing rate varies from a 94 percent allocation to local governments in Slovakia to 30 percent in the Czech Republic and Poland. In none of these countries, however, do local governments have any significant freedom in establishing the tax rate.

Payroll Taxes

A closely related question is whether payroll taxes are a viable source of financing for subnational governments. Payroll taxes are levied on both employees and employers. Such taxes

have several merits. They are easily administrable and revenue productive at relatively low nominal rates. The problems are that payroll taxes act as a tax barrier to employment in the modern sector, they encourage firms to substitute capital for labor, and they penalize formal sector vs. informal sector employment.¹⁹ Moreover, in many countries the payroll tax base is already heavily exploited to finance (central) social security and unemployment compensation systems. Payroll taxes are not frequently used to finance general services in industrial countries. But the practice is not unheard of, e.g., state governments in Australia levy a tax on employer payrolls.

Only rarely are subnational governments in developing countries given direct access to the payroll tax base. When they are, it takes the form of a wage tax that is withheld by employers. One of the few examples is Mexico where state governments and the Federal District have the power to levy and administer a payroll tax. Municipal governments in South Africa were allowed to levy against payrolls and turnover, but this will be abolished in 2011. As in Mexico, the payroll tax is levied on a origin basis, and it accounts for only half as much revenue as the turnover component (Bahl and Solomon, 2003).

Company Income Tax

Most who study revenue assignment would argue that the company income tax is not a good choice for subnational governments (McLure, 1998; Martinez-Vazquez, 2008; Bahl and Bird, 2008). To the extent that the incidence of the tax is shifted backwards to owners of the firms, or forward to consumers of the product, it is not fully borne by local residents. Moreover, if levied according to the point of payment, there arises the headquarters problem – the tax revenue will accrue to the headquarters city or province.

¹⁹ For a discussion of the advantages and disadvantages of a payroll tax, see Alm and Wallace (2007).

Countries usually try to trick the system out of this undesirable tax exporting and headquarters effect by devising a formula to give every province where the company produces or sells its product a claim on some part of the tax base. But these allocation formulae give rough justice at best and few would argue that they are a reasonable way to convert the company income tax to a destination-based levy. The United States has learned well the great problems that come with trying to prorate the net income of national companies across state boundaries (McLure 1980).²⁰

Other problems with a subnational government enterprise income tax are no less worrisome: The tax base (profits) is cyclically unstable, and provincial and local government revenues can be significantly affected by changes in central government tax or industrial policy. In many countries, there is also the question of whether the subnational government tax administration machinery is up to handling something so complicated as the corporate income tax. And, finally, there is the question of exporting the burden.

These problems notwithstanding, some industrial countries do assign the corporate income tax to subnational governments. It accounts for about 4 percent of state and local government tax revenues in the United States. In Switzerland, Spain, Japan and Canada, subnational governments tax business income.

Developing countries make little if any use of company income taxes at the subnational government level. Subnational governments in transition countries, however, do share in enterprise income taxes. In China the central government determines the tax rate and the tax base, but in Russia the subnational governments have some rate setting discretion on a federally determined base.

²⁰ Similar allocation problems are observed in Switzerland (Spahn, 1997).

Consumption Taxes²¹

Consumption taxes can be revenue productive at low nominal rates, and oftentimes are less objectionable to taxpayers than are income or property taxes. These may take the form of either general sales taxes or selective sales taxes. With the notable exceptions of the United States and Canada, general sales taxes are not often used by subnational governments in industrial countries. The more decentralized European countries have settled on assigning general consumption taxes to the center and allowing the subnational governments to share the individual income tax base.

General Sales Tax (VAT) The general sales tax that dominates the revenue structure in most countries is a VAT. There would seem little reason to deny provincial-level governments in industrial countries the authority to levy a VAT. Nevertheless, the only well-functioning, destination-base subnational VATs now in existence are those in Canada (Bird, Mintz and Wilson 2006; Bird and Gendron, 2007, 2009). Two different systems are in operation: one in Québec and the other in three small provinces. Canadian experience shows that with good tax administration it is perfectly feasible to operate a VAT at the subnational level on a destination basis, with each taxing government having the power to determine its own VAT rate.

In most developing countries, there is no realistic prospect that the tax administration will be able to support a subnational government VAT.²² Subnational VATs were considered to be either infeasible or undesirable for a variety of reasons: high administrative and compliance costs, the possible loss of macroeconomic control, the general reluctance of central governments to share VAT space, the tax treatment of international trade, and the problems arising from cross-

²¹ This section draws from Bahl and Bird (2008a).

²² See Bahl and Bird, 2008a.

border (interstate) trade.²³ Brazil has long levied a state VAT, and it generates an impressive 8 percent of GDP. The state governments have considerable discretion to adjust the rate and base, with the result that the VAT has been used by states as an instrument of industrial policy (Alfonso and Barroso, 2007). India has implemented a state level value added tax, but is still working out the details of how it will operate, particularly with respect to interstate trade.

Retail Sales and Gross receipts Taxes The retail sales tax is a major source of revenue in most US states. The tax rates and bases are determined by the individual states. The biggest difference among the states is in the extent to which they tax services and purchases of inputs by businesses. There is no national sales tax in the US.

The major problem with the retail sales tax as a subnational government levy are the difficulties with taxing services and internet purchases. With the shift in spending patterns toward the consumption of services, and with internet ordering on the rise, there is an erosion of the state revenue base. The taxation of electronic purchases is held back by administrative constraints and by legal rulings (the need to show nexus for a company as a prerequisite for taxation).²⁴ The taxation of services is limited by administrative considerations and by a historical tradition of not taxing services.

Subnational governments in some developing countries do make use of consumption taxes. Buenos Aires, both city and province, levy a gross receipts tax. The tax rate varies widely by type of product. The major own source revenue of Brazilian municipalities comes from a gross receipts tax on services (ISS), almost all of which is collected by the largest municipalities (Rezende and Garson, 2006). In Nicaragua, the local gross receipts tax is levied at a rate of 1

²³Broadly, the argument with respect to such trade was that subnational VATs were, if levied on an origin basis, distortionary, and if levied on a destination basis, unworkable.

²⁴ For a discussion of technology and the the revenue capture of remote sales, see Fox, Luna and Murray (2009).

percent. Colombian municipalities also derive much of their revenue from a gross receipts tax. South African cities have in the past derived a significant amount of revenue from a combination payroll and turnover tax (Bahl and Solomon, 2003). All of these taxes are levied on an origin basis, so all are guilty of tax exporting. Moreover, there is the “headquarters problem” which arises because national firms tend to pay tax for all branches at the headquarters location.

Some urban local governments in South Asia have raised significant revenue from the *Octroi* which is a combination of sales tax and terminal tax. It is levied on goods entering the local government area, according to a complicated rate schedule, and is collected at Octroi stations. It imposes compliance costs on sellers (the waiting times at the Octroi posts can be long) and is collected in a way that invites corruption. Nevertheless, the Octroi was revenue productive, e.g., 50 percent of revenues for the Bombay Municipal Corporation. The Octroi has now been abolished in Pakistan and in all but three Indian states. Provincial governments in Pakistan are empowered to levy a sales tax on the consumption of services, but this yields little revenue.

Excise Taxes Excise taxes can be easily administered by regional governments and lend themselves to regionally-differentiated rate determination. Moreover, in terms of efficiency, subnational government excise taxes, if applied on a destination basis, should meet the correspondence test for subnational assignment. It is sometimes argued that there is a benefit argument for subnational government excises -- for example, on motor fuels -- to the extent that regional governments are responsible for road maintenance. In practice, subnational government excise taxes (selective sales taxes) work well in industrial countries and are widely used.

The case for decentralizing excises in developing countries is not so strong, for two reasons. First, special excises on petroleum, liquor, beer and tobacco are of significant revenue

importance to central governments, and are not likely to be surrendered to decentralization. Second, administrative constraints limit the degree to which a destination based excise could be implemented in most developing countries.²⁵ Moreover local governments themselves are hesitant to take on the political cost that might come with heavier taxation of motor vehicle use.

The strongest economic and administrative case for regional (and perhaps even local) excises is with respect to vehicle-related taxes (Bahl and Linn, 1992; Bahl and Bird, 2008a). The most important tax on automobiles from a revenue perspective is the fuel tax, which is also the simplest and cheapest form of automotive taxation from an administrative perspective. It is imposed with success by US state governments.

The case for provincial level motor fuel taxes in developing countries is less easily made, and they are imposed in only a few countries. Collection at the pump is usually difficult. Differential provincial fuel taxes can be imposed at the refinery or wholesale level, with the refiner or wholesaler acting as a collection agent for the states, remitting taxes in accordance with fuel shipments.

Fuel taxes are related in a general way to both to road usage and to such external effects of vehicles as accidents, pollution and congestion. However, to the extent that automotive taxation is intended to price either the utilization of publicly-provided services or externalities, fuel taxes are a very crude instrument. Toll roads and an appropriate set of annual automobile (and driver) license fees can in principle serve this benefit tax function much better.

²⁵ For a good discussion of the excise tax practice in developing countries, see Cnossen (ed.) 2006.

Property and Land Taxes

Virtually all countries assign the property tax to local governments, and in the industrialized countries these local governments are given rate setting powers. Administration of the tax is often divided between the central (or state) government and the local government, but there is no one dominant pattern on the division of administrative duties. In some cases higher level governments develop the cadastre and even do the valuation work, while local governments focus on collections. In other countries, valuation is a local function, especially in the larger cities. Most countries assign responsibility for collections to the local level.

The property tax passes many of the tests of a good subnational government tax. The base is broad and the tax can be revenue productive at reasonable levels of the statutory rate. Typically, revenues are relatively stable over the business cycle. There is a rough jurisdictional correspondence between the benefits received from services financed by the tax and the burden distribution.²⁶ It fails the tests for a good subnational government tax in terms of its high administrative cost and its unpopularity with voters.

There is always controversy about the revenue yield of the property tax, i.e., about whether it's burden is too high or about whether it raises enough revenue to finance local public services. The revenue yield from the property tax in OECD countries is equivalent to about 2 percent of GDP, more than three times higher than the yield in developing countries (Table 3).

The discussion about property tax practices in low income countries is mostly pointed toward its almost uniformly weak revenue performance. A number of hypotheses have been offered about why property tax revenues are so low in developing countries. Arguably the most important reason is that the property tax works best as a local government tax, and fiscal

²⁶ The exception to this rule is the burden of taxes on some non-residential properties that are not owned by local residents, and that sell products outside the local area.

decentralization has not been as embraced in developing as in industrialized countries. Bahl and Martinez-Vazquez (2008) use data from a panel of 70 countries for 1990, 1995 and 2000 to show a significant positive effect of both expenditure decentralization and the level of per capita GDP on the level of the effective property tax rate.²⁷ Lower income countries are less decentralized and therefore use the property tax less.

The property tax offers several advantages as a good local tax in developing countries. Real property is visible and can be reached by local government administrations, and with effort, effective administration is possible (DeCesare, 2004). The distribution of the tax burden is progressive, and the revenue potential is well above amounts now collected in most developing countries. A major problem is that delays in general revaluation are commonplace, and significantly lower the revenue income elasticity.

CONCLUSIONS

Subnational government tax revenues in OECD countries average about 8 percent of GDP, and account for around one-fourth of all taxes raised. The level in developing countries is less than one-half as much. When one factors in the actual control over local taxes, the decentralized shares are lower in both industrialized and developing countries. The variation across countries, both within the OECD and among less developed countries, is very large. Countries tend to choose more decentralized tax systems largely because they are more decentralized on the expenditure side of the budget. Finance seems to follow function. For example, Denmark and Canada are very decentralized on the tax side, but only 5 percent of taxes are raised by subnational governments in the UK, and only 2 percent in Ireland. Culture and

²⁷ The effective rate of property tax is measured as the ratio of property tax collections to GDP.

history seem to play a major role, but federal structure does not seem to be a defining factor.

While tax assignment has gone quite far in many industrial countries, there is no one approach that can be pointed to as most successful. In fact, tax decentralization is implemented in many ways. Some countries use very decentralized administrative regimes (Germany), some use central collection machinery (Nordic Countries) and some rely heavily on cooperation between governments (United States and Canada). The United States gives almost complete discretion to the state governments to make tax policy, Spain has legislated an asymmetric system, and Australia prescribes a very limited role for its states in setting tax policy.

One cannot make the same statement about the less developed and transition countries. The preferred model seems to be one of central determination of the tax rate and base for all major taxes and revenue sharing programs to sort out the problems with the vertical gap. There are some notable exceptions (e.g., Brazil, Argentina and India) but for the most part, subnational governments in low income and transition countries have little independent taxing power.

The choice of decentralized taxes is much more limited in developing than in industrialized countries. The individual income tax, which theory tells us is a preferred subnational government levy, is used in more than half of the OECD countries. By contrast, it is not a decentralized tax in the developing economies or the transition countries, because of administrative considerations or because of central governments are unwilling to give up control. Neither industrial nor developing countries have made much use of payroll taxes for subnational government financing, though Australia, France and South Africa have in the past been notable exceptions. The most egregious violation of the basic principles for good subnational government taxation would appear to be the decentralization of the corporation income tax in several industrial countries.

The use of indirect taxes by subnational governments is more of a mixed bag. Provincial and state governments in Canada and the US do levy general sales taxes but European countries have not assigned general sales taxes to subnational governments. There is little use of decentralized general sales taxes in developing countries. Neither can they make use of destination based excises, because of administrative constraints.

Whither tax decentralization? Tax effort in the OECD countries does not appear to be rising, but there appears to be a drift toward more reliance on subnational government taxes. However, there is reason to speculate that this trend might be stuck. The value added tax is not a likely candidate for increased autonomous taxation by regional governments, in Europe or in the US; the corporation income tax is a bad choice, and there is only so much revenue to be had from destination-based excises and from property taxes. OECD countries may not be able to continue working the individual income tax so hard. On the side of developing countries and transition countries, a groundswell of support for tax decentralization has not yet materialized. Rather, there is continued heavy reliance on intergovernmental transfers to finance locally provided services, and therefore some compromise to the accountability requirement for successful fiscal decentralization.

References

- Alfonso, Jose Roberto and Rafael Barroso (2007). "Brazilian Tax Affairs" Berkeley Program in Law and Economics, Paper 043007,8, University of California.
- Alm, James and Sally Wallace (2007). "Are Jamaica's Direct Taxes on Labor "Fair"? *Public Finance Review*, Vol. 35, no. 1, pp 83-102.
- Bahl, Roy (1971) "A Regression Approach to Tax Effort and Tax Ratio Analysis" *International Monetary Fund Staff Papers*, Vol 18. No. 3.
- Bahl, Roy (1999). *Fiscal Policy in China* (San Francisco: 1990 Institute and University of Michigan Press).
- Bahl, Roy (2008). "Opportunities and Risks of Fiscal Decentralization: A Developing Country Perspective" in *Achieving Decentralization Objectives* ed. by Gregory Ingram (Cambridge, Mass: Lincoln Institute of Land Policy), pp 19-37.
- Bahl, Roy and David Solomon (2003). "The Regional Service Council Levy" in *Restructuring Local Government Finance in Developing Countries: Lessons from South Africa*, edited by Roy Bahl and Paul Smoke (Cheltenham UK: Edward Elgar), pages 127-172.
- Bahl, Roy and Johannes Linn (1992). *Urban Public Finance in Developing Countries*. New York: Oxford University Press.
- Bahl, Roy and Johannes Linn (1983). "The Assignment of Local Government Revenues in Developing Countries" in *Tax assignment in Federal Countries*, edited by Charles
- Bahl, Roy, and Jorge Martinez-Vazquez (2008). "The Property Tax in Developing Countries: Current Practice and Prospects" in *Making the Property Tax Work: Experiences in Developing and Transitional Countries*, ed. By Roy Bahl, Jorge Martinez-Vazquez and Joan Youngman. (Cambridge: Lincoln Institute of Land Policy).
- Bahl, Roy and Musharraf Cyan (2009), "Fiscal Decentralization and Tax Assignment" paper presented at a conference *The Political and Economic Consequences of Decentralization*, Santiago de Compostela, Spain, November 5-6, 2009.
- Bahl, Roy and Richard Bird (2008). "Subnational Taxes in Developing Countries: The Way Forward" *Public Budgeting & Finance*, Volume 28, Number 4, pp1-25.
- Bahl, Roy and Richard Bird (2008a). "Tax Policy in Developing Countries: Looking Back – and Forward" *National Tax Journal*, Vol. LXI, no. 2, pages 279-302.
- Bahl, Roy and Sally Wallace (2007). *Tax Policy and Economic Development* (Kingston: Planning Institute of Jamaica).
- Bird, Richard (2006). "Local and Regional Revenues: Realities and Prospects," in Richard Bird and Francois Vaillancourt eds, *Perspectives on Fiscal Federalism*. WBI Learning Resources Series (Washington, DC: World Bank), pp. 177-96;
- Bird, Richard (2008). "Tax Assignment Revisited" Working Paper 08-05, (Atlanta: International Studies Program, Georgia State University).
- Bird, Richard and Eric Zolt (2005). "Redistribution via Taxation: The limited Role of the Personal Income Tax in Developing Countries" *UCLA Law Review* 52 No.6 (August) 1627-1695.
- Bird, Richard and Enid Slack (2008). "Property Tax and Rural Local Finance," in Roy Bahl, Jorge Martinez-

Vazquez and Joan Youngman, eds. (2008) *Making the Property Tax Work: Experiences in Developing and Transitional Countries* (Cambridge, MA: the Institute of Land Policy), pp. 103-24.

Bird, Richard, Jack Mintz and Thomas Wilson, "Coordinating Federal and Provincial Sales Taxes: Lessons from the Canadian Experience," *National Tax Journal* 49, no. 4 (2006): 889-903.

Bird, Richard and Michael Smart (2002). "Intergovernmental Fiscal Transfers: International Lessons for Developing Countries," *World Development*, 30 (No. 6): 899-912.

Bird, Richard and Pierre-Pascal Gendron (2007). *The VAT in Developing and transition Countries*. (New York: Cambridge University Press).

Bird, Richard and Pierre-Pascal Gendron (2009). "Sales Taxes in Canada: The GST-HST-QST-RST System" Paper presented at American Tax Policy Institute Conference on Structuring a Federal VAT: Design and Coordination Issues (Washington DC: February 18-19).

Bird, Richard and Sally Wallace (2004). "Is it really so hard to tax the Hard-to-Tax? The Context and Role of Presumptive Taxes" in *Taxing the Hard-to-Tax: Lessons from Theory and Practice* edited by James Alm, Jorge Martinez-Vazquez and Sally Wallace (Amsterdam: Elsevier) pages 121-158.

Brennan, G. and J.M. Buchanan (1980). *The Power to Tax: Analytical Foundations of a Fiscal Constitution* (Cambridge: Cambridge University Press).

Cnossen, Sjöbren (2006) editor. *Excise Tax Policy + Administration in Southern African Countries* (Pretoria: University of South Africa).

Dafflon, Bernard (2008). "Accommodating Asymmetry through Pragmatism: Regards on Swiss Fiscal Federalism" International Studies Program, Georgia State University.

De Cesare, Claudia M. (2004). "General Characteristics of Property Tax Systems in Latin America" Paper presented at 7th International Conference on Optimizing Property Tax Systems in Latin American, Guadalajara, Jalisco, Mexico.

Dillinger, William (2007). *Intergovernmental Fiscal Relations in the New EU Member States: Consolidating Reforms*, working Paper no. 111 (Washington DC: World Bank).

Ebel, Robert and Serdar Yilmaz (2003). "On the measurement and impact of fiscal Decentralization" in *Public Finance in Developing and Transitional Countries: Essays in honor of Richard Bird*, edited by Jorge Martinez-Vazquez and James Alm (Cheltenham, UK: Edward Elgar) pages 101-120.

Engelschalk, Michael (2004). Creating a favorable tax environment for small business. In James Alm, Jorge Martinez-Vazquez and Sally Wallace (Eds.), *Taxing the hard-to-tax*. (Amsterdam: Elsevier).

Fox, William, LeAnn Luna and Matthew Murray (2009). "The SSTP and Technology: Implications for the Future of the Sales Tax" *National Tax Journal*, Vol. LXI, No. 4, Part 2, pp 823-842.

Fletcher, Jason and Matthew Murray (2008). "What factors Influence the Structure of the State Income tax?" *Public Finance Review*, Vol. 36, no.4, pages 475-496.

Hettich, W. and S. Winer (1999). *Democratic choice and Taxation: A Theoretical and Empirical Analysis* (New York: Cambridge University Press).

Ikawa, Hiroshi (2008). "Trinity Reform of Local Fiscal System in Japan" in *Decentralization Policies in Asian Development*, edited by Shinichi Ichimura and Roy Bahl (World Scientific Press: Singapore), Chapter II.

International Monetary Fund (Various Issues). *Government Finance Statistics* (Washington DC: International

Monetary Fund).

Lockwood, Ben (2006). "The Political Economy of Decentralization" in *Handbook of Fiscal Federalism* ed. By Ehtisham Ahmad and Giorgio Brosio (Cheltenham, UK: Edward Elgar Publishers) pp 33-60.

López-Laborda, Julio, Jorge Martínez-Vázquez and Carlos Monasterio (2007). "Kingdom of Spain" in *The Practice of Fiscal Federalism: Comparative Perspectives*, edited by Anwar Shah, McGill-Queens University Press: Montreal).

Lotz, Jorgen (2006). "Local Government Organization and Finance: Nordic Countries" in *Local Governance in Industrial Countries*, ed. by Anwar Shah (Washington DC: World Bank) pp 223-264.

Lotz, Jorgen and Elliott Morss (1967). "Measuring Tax Effort in Developing Countries" *International Monetary Fund Staff Papers*.

Martinez-Vazquez, Jorge (2008). "Revenue Assignments in the practice of Fiscal Decentralization" *Fiscal Federalism and Political Decentralization: Lessons from Spain, Germany and Canada*, edited by Nuria Bosch and Jose Duran (Edward Elgar: Northampton, Mass).

Martinez-Vazquez and Andrey Timofeev (2004). "Choosing between Centralized and Decentralized Models of Tax Administration" in *La Financiacion de las comunidades autonomas: Politicas tributarias y solidaridad interterritorial*.

Martinez-Vazquez, Jorge, Mark Rider and Sally Wallace (2008). *Tax Reform in Russia* (Cheltenham, UK: Edward Elgar).

McLure, C.E., Jr. (1980). "The State Corporate Income Tax: Lambs in Wolves' Clothing in H.J. Aaron and M.J. Boskin (Eds), *The Economics of Taxation*, Washington, DC: The Brookings Institution, pp. 327-346.

McLure, C.E. (1998). "The revenue assignment problem: Ends, means and constraints". *Public Budgeting, Accounting and Financial Management*. Winter.

Mikesell, John (2007). "Developing Options for the Administration of Local Taxes: An International Review" *Public Budgeting & Finance*, vol. 27, No. 1, pages 41-68.

Mullins, Daniel R. "Fiscal limitations on local choice: The imposition and effects of local government tax and expenditure limitations" Forthcoming.

Musgrave, Richard A. (1983). "Who Should Tax, Where and What?" in Charles McLure, ed., *Tax Assignment in Federal Countries* (Canberra: Centre for Research on Federal Financial Relations, Australian National University), pp 2-19.

Musgrave, Richard and Peggy Musgrave (1984). *Public Finance in Theory and Practice*, 4th edition (New York: McGraw Hill, 1984).

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

Oates, Wallace (1999). "An Essay on Fiscal Federalism" *Journal of Economic Literature*, Volume XXXVII (September) pp 1120-1149.

Oates, Wallace E. (1996). Taxation in a federal system: the tax-assignment problem. *Public Economics Review*, 1, 35-60.

Oates, Wallace (2008). "On the Evolution of Fiscal Federalism: Theory and Institutions" *National Tax Journal* Volume LXI, No.2, pp 313-334.

- OECD (1999). Taxing Powers of State and Local Government, OECD tax Policy Studies No. 1, Paris.
- Plamondon, R. and D. Zussman (1998). "The Compliance Costs of Canada's Major Tax Systems and the Impact of Single Administration," *Canadian Tax Journal*, 46, 4: 761-785.
- Rezende, F. and S. Garson (2006) "Financing Metropolitan Areas in Brazil," *Revista de economia contemporanea*, 10(1): 5-34.
- Rodden, Jonathan (2003). "Soft Budget Constraints and German Federalism" in *Fiscal Decentralization and the challenge of Hard Budget Constraints* (Cambridge: MIT Press) Chapter 5.
- Schroeder, Larry (2006). "Local Government organization and Finance: United States" in *Local Governance in Industrial Countries*, ed. by Anwar Shah (Washington DC: World Bank) pp 313-357.
- Shirai, Sayuri (2005). "Growing Problems in the Local Public Finance System of Japan" *Social Science Japan Journal*, Vol. 8, No. 2, pp 213-238.
- Slack, Enid (2007). *Managing the Coordination of Service Delivery in Metropolitan Areas: the Role of Metropolitan Governance*, World Bank Policy Research Working Paper WPS 4317, August.
- Slack, Enid (2006). "Alternative Approaches to Taxing Land and Property," in R. M. Bird and F. Vaillancourt eds, *Perspectives on Fiscal Federalism*. WBI Learning Resources Series (Washington, DC: World Bank), pp. 197-223.
- Spahn, Paul Bernd (1997). "Switzerland" in *Fiscal Federalism in Theory and Practice*, edited by Teresa Ter-Minassian (Washington: International Monetary Fund)
- Spahn, Paul Bernd and Wolfgang Föttinger (1997). "Germany" in *Fiscal Federalism in Theory and Practice*, edited by Teresa Ter-Minassian (Washington; International Monetary Fund).
- Stegarescu, Dan (2005). "Public Sector Decentralization: Measurement Concepts and Recent International Trends" *Fiscal Studies*, Vol 26., No. 3. pp 301-333.
- Stegarescu, Dan (2009). "The Effects of Economic and Political Integration on Fiscal Decentralization: Evidence from OECD Countries" *Canadian Journal of Economics*, Vol.42, Issue 2, pp 694-718, May 2009.
- Vehorn, Charles L. and Ehtisham Ahmad (1997). "Tax Administration," in Teresa Ter-Minassian, ed., *Fiscal Federalism in Theory and Practice*. Washington: International Monetary Fund.
- World Bank "Qualitative Decentralization Indicators Data Base", World Bank website.

Table 1

	Subnational Government Tax As a Percent of Total Tax^a			
	1970s	1980s	1990s	2000s
OECD	19.8 (21)	19.6 (21)	24.1 (20)	25.3 (19)
Transition	22.4 (1)	16.4 (5)	21.6 (20)	20.9 (21)
Developing	10.1 (14)	12.0 (15)	13.4 (18)	9.6 (19)

^a The average value for the decade is reported in each cell. The number of countries reporting is shown in parenthesis.

Source: Computed from IMF (various years).

Table 2

	Subnational Government Tax Revenues As a Percent of GDP^a			
	1970s	1980s	1990s	2000s
OECD	8.59 (15)	9.49 (15)	8.61 (20)	7.8 (15)
Transition		7.55 (3)	4.62 (19)	4.55 (21)
Developing	1.42 (18)	1.36 (18)	1.98 (25)	1.57 (23)

^a The average value for the decade is reported in each cell. The number of countries reporting is shown in parenthesis.

Source: Computed from IMF (various years).

Table 3.
Property Tax as a Percent of GDP^a

	1970s	1980s	1990s	2000s ^b
OECD countries (number of countries)	1.24 16	1.31 18	1.44 16	2.12 18
Developing countries (number of countries)	0.42 20	0.36 27	0.42 23	0.60 29
Transition countries (number of countries)	0.34 1	0.59 4	0.54 20	0.68 18
All countries (number of countries)	0.77 37	0.73 49	0.75 59	1.04 65

^a The average value for the decade is reported in each cell. The number of countries reporting is shown in parenthesis

^b The average for the 2000s is for the years 2000 and 2001.

Source: Bahl and Martinez-Vazquez (2008), calculations from IMF (various issues).