

**The Property Tax in Developing Countries:  
Current Practice and Prospects**

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## **Abstract**

Over the past two decades there has been an unprecedented move toward decentralized governance all over the world. These changes have taken special significance in many developing and transitional countries where centralized systems were perceived to have failed to deliver improved general welfare. The promise of political, administrative and fiscal decentralization is that it can strengthen democratic representative institutions, increase the overall efficiency of the public sector and lead to improved social and economic welfare for countries that decide to adopt it. One critical assumption for expecting these results to happen is that decentralized governments will generally be more accountable and responsive to citizens' needs and preferences. At the same time, there is general agreement among experts in decentralization that the increased accountability associated with decentralization can only be assured when sub-national governments have an adequate level of autonomy and discretion in raising their own revenues.

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# THE PROPERTY TAX IN DEVELOPING COUNTRIES: CURRENT PRACTICE AND PROSPECTS

## I. Introduction

Over the past two decades there has been an unprecedented move toward decentralized governance all over the world. These changes have taken special significance in many developing and transitional countries where centralized systems were perceived to have failed to deliver improved general welfare. The promise of political, administrative and fiscal decentralization is that it can strengthen democratic representative institutions, increase the overall efficiency of the public sector and lead to improved social and economic welfare for countries that decide to adopt it. One critical assumption for expecting these results to happen is that decentralized governments will generally be more accountable and responsive to citizens' needs and preferences. At the same time, there is general agreement among experts in decentralization that the increased accountability associated with decentralization can only be assured when sub-national governments have an adequate level of autonomy and discretion in raising their own revenues.

Thus, if effective fiscal decentralization requires meaningful revenue autonomy at the regional and local levels of government, the question is which taxes should be allocated at these levels. This is known in the fiscal decentralization literature as the "tax assignment problem."<sup>1</sup> Although there is some variation in the type of taxes recommended as desirable for providing sub-national governments with revenue autonomy, virtually every student of intergovernmental finance and a myriad of reports on fiscal decentralization design have identified the property tax as one of the best candidates for a mainstay at the sub-national level, especially for local governments.

Something else makes the property tax peculiar in the revenue assignments problem. Almost without exception, revenues from the property tax are assigned to local governments. The degree of discretion given to local governments to manipulate the tax may vary but the thinking that this tax belongs to local governments seems well entrenched. This is not generally the case with other taxes that fiscal decentralization experts recommend be assigned to sub-national governments, for example, motor vehicle taxes or a piggyback personal income tax.

Despite what seems to be a widespread argument that the property tax is local, sub-national governments in developing and transitional countries make relatively little use of the property tax. On average, they raise property tax revenues that are equivalent to only about 0.6 percent of GDP.

This is a big puzzle and, in one way or another, the main subject of all papers in this conference. There are many potential explanations why the property tax is not used more intensively as a source of financing public services in developing and transition countries.

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<sup>1</sup> See, for example, Martinez-Vazquez, McLure and Vaillancourt (2006)

Not the least of these is the fact that it is a “difficult” tax, which from a rather cynical viewpoint may explain the apparent willingness or “generosity” of central authorities to depart with this tax to the benefit of sub-national governments. Rather than offering a general explanation to the puzzle, the more modest goal of this paper is to examine the current practice in developing and transitional countries and to identify some of the factors behind the little demand for this tax. We end this paper with a consideration of future prospects.

The rest of the paper is organized as follows. In section two we briefly review, from a theoretical and a practical standpoint, the advantages and disadvantages of the property tax. Section three presents an overview of the revenue performance of property taxes over the past four decades in developing, transitional and OECD countries. In section four we analyze the determinants of the relative use of property taxation, paying special attention to the role of fiscal decentralization. In Section five we examine the different avenues open for improving the performance of property taxes. The conclusions are focused on an overview of the future of the property tax in developing countries.

## **II. Advantages and Disadvantages of the Property Tax as a Sub-National Tax**

As noted above, there is a general presumption that the property tax is an ideal tax at the sub-national government level in decentralized systems. We might challenge this view by listing the advantages and disadvantages associated with this choice.

### **Advantages**

The *a priori* case for heavier use of the property tax at the sub-national level in developing and transitional countries is a strong one. There is much to recommend a greater reliance on this revenue source.

### **Revenue Potential and Stability**

First, and most important, the property tax is potentially a significant revenue producer for sub-national governments. In the case of Canada and the US, property tax revenues reach up to 3 to 4 percent of GDP. The value of land and improvements constitutes a broad base that is growing in virtually all countries at fast rates, and even a modest statutory tax rate can yield very significant amounts of revenue.<sup>2</sup> However, the realization of large amounts of revenue requires a willingness to impose the property tax at higher levels than now exist, plus a good valuation system and a high rate of compliance (which implies a strong program of enforcement). As we discuss below, industrialized countries

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<sup>2</sup> For example, Hernando de Soto (2000) estimates that the total value of Africans' informally owned houses and farmland in 1997 was roughly \$1 trillion or nearly three times sub-Saharan Africa's annual GDP. However, much of this tax base in developing countries is subject to informal property rights, which does not help with the willingness to pay taxes. As reported in *The Economist*, Jan 15 2004, “In Africa... less than 10% of the continent's land is formally owned, and barely one African in ten lives in a house with title deeds.”

have realized this revenue potential to a much greater extent than have developing and transitional countries, not only because of their valuation and enforcement systems, but also because of the extent to which they have embraced fiscal decentralization.

Another positive feature of property taxation, and one that makes it especially attractive for sub-national governments, is the relative stability of its tax base. Fluctuations in the business cycle tend to have a much bigger impact on tax bases such as earned wage income and profits or even sales. However, the relatively greater stability of market values is of little consequence if market values are not accurately reflected in assessed property values. As we discuss below, the valuation of property is one of the key problems with the effective use of the property tax in developing and transitional countries.

### Fairness and Equity

The property tax might be seen as a rough kind of benefit charge, and therefore not only as an efficient tax but also as a fair tax. Businesses and some residential owners may perceive that they benefit from certain public investments approximately in proportion to the value of their properties. For example, property values may be higher, *ceteris paribus*, in areas where street lighting is functional, policing is better, schools are of higher quality, and so on. It follows that there is a sense in which property taxes paid roughly correspond to benefits received. This of course assumes that property is correctly valued to reflect the betterment associated with public investments and regularly provided public services, that valuations are regularly updated, that land markets function, and that benefiting properties are not routinely exempted through the political process. It also assumes that property owners/ tax payers believe that this link between tax base and benefits received is more or less accurate.

The property tax might also be seen as vertically equitable in developing and transition countries. In fact, the property tax can be progressive in developing countries, and therefore can increase the overall vertical equity of the tax system (Bahl and Linn, 1992, Bahl, 1998, and Sennoga, Sjoquist and Wallace in this volume). There are several reasons for this. Property ownership is heavily concentrated among the wealthy in developing countries, and landlords are often not reached by the income tax system. The property tax has the potential of filling the gap. On the basis of the high level of concentration of ownership, a tax on the land value base would seem to be the most progressive. At the other end of the income distribution spectrum, public housing and low valued properties are generally not taxed at all, which also adds to the progressivity of the tax.

However, property taxes in LDCs can be made regressive by exemption policies that target the well-to-do, such as in the case of exempting owner-occupied properties, as practiced in some countries. Preferential assessment (or exemption) of certain commercial or industrial properties may have the same effect. The distributional effects of the property tax, then, are heavily influenced by the rate and base structure of the tax,

as well as by its administration. These are factors that government can to some extent control.

### Tax Exporting

The property tax has the desirable feature that much of the tax burden is quite likely borne by residents in the jurisdiction where the services financed by property taxes are provided. In this case, the local governments who levy the tax are more likely to be fiscally responsible, that is, to be less likely to overspend on the expectation that tax exporting would allow them to pass some of the tax burden to the residents of other jurisdictions.

The reality of “correspondence” advantage of the property tax might be challenged. To the extent that the property tax is concentrated on non-residential property, and if improvements (versus land) are a significant component of the tax base, there is a greater potential for exporting the burden to other regions. This happens when businesses sell outside the region, and are able to pass their taxes on to consumers, when landlords are absentee owners, etc. In countries where only industrial-commercial properties are taxed, the potential for exporting the property tax burden is greater, and the property tax is a less suitable local government levy.

### Compliance Costs

The property tax has the advantage that it imposes a relatively low compliance cost on taxpayers because taxpayer intervention in terms of the determination of tax liability is minimal, except in the case of appeals. Unlike most other taxes that tend to be self-assessed (income taxes, VAT, etc.), property taxes are assessed by the tax authorities and therefore the compliance costs are largely shifted to the assessing authority and billing authorities.<sup>3</sup> Even in cases where there has been a move to self-assessment, the argument is that compliance costs are reduced because contact with possibly corrupt administrative and certainly bothersome administrative staff was removed (World Bank, 2004). The other potential compliance cost has to do with method of making payment, but in recent years countries have increasingly shifted to using banks as collection points (Kelly, 1996).

### Tax Base Competition

A major advantage of the property tax as a local levy is that it usually poses no significant problem of tax base competition with the central government. The value of land and improvements is not a tax base which the central governments covet; hence they often seem content to leave it to local governments.<sup>4</sup> As we briefly discussed in the introduction, the reasons for this common behavior among central authorities are far from

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<sup>3</sup> In most developing and transition countries, property taxes are assessed by a central authority but billed and collected by the local authorities.

<sup>4</sup> This is not always the case. For example in China, Indonesia and Jamaica, the property tax is a central government levy, even though local governments receive most of the revenue.



clear. Although the central authorities may see, given the advantages discussed in this section, the wisdom of assigning this tax to local governments, it well could also be that their lack of interest in the property tax lies in the complexity and the low revenue potential of this tax. Or, it could reflect the calculus of central officials regarding revenue potential vs. political cost.

The lack of vertical tax base competition does not exclude, of course, the possibility of horizontal or inter-jurisdictional tax rate/base competition. Without getting into the positive and negative aspects of this type of competition, the advantage of the property tax over other potential local taxes in this context is that inter-jurisdictional competition is likely to lead to lower economic distortions and excess burden losses. *Land Use Efficiency*. Finally, a property tax might be thought of as a charge for land that can lead to significant improvements in the quality of land use. Particularly if land is taxed according to its location value in urban areas, and if assessment is at its highest and best use, a more rational allocation of land use will occur. Here the land value version of property taxation has a particular advantage. In developing countries, however, the effective rate of taxation is so low that these incentives might not be effective.

### **Disadvantages**

There are major drawbacks to the use of property taxes in developing and transition countries. Particularly the administrative constraints and how the tax is actually perceived by taxpayers go a long way toward explaining the relatively low revenue dependence on this tax.

#### Administration Cost

The major problem with the property tax is that it is generally difficult and costly to administer. Less efficient and more costly administration in combination with low revenue yields can almost certainly make the property tax a losing proposition in terms of revenue yield per dollar of administrative cost. The fact is that in most developing and transition countries, property taxes are badly administered by any standard. As we discuss in a later section of this paper, both assessment ratios and collection rates often are very low. This leads to unfairness in terms of how various categories of taxpayers are treated, and to significant revenue leakage. Property taxes are not, cannot, be self-assessed; hence a very high staff cost is implied, and a great deal of information and record keeping is required. There also are significant administrative costs associated with collections and appeals. Compounding the problem, there is a shortage of property assessors in virtually all developing countries. Thus, when administrative costs are compared with revenue yield, even in the best of circumstances the property tax easily can seem a poor financing choice for local governments.

## Enforcement

The property tax is difficult to enforce. Elected local officials are often not in a position to take actions against delinquent taxpayers, because they are not provided with the means to do so and often those who are not in compliance are leaders in the community. Potentially effective solutions to penalizing those who are out of compliance, such as confiscation of property, may be considered too extreme and generally are not feasible because of the political fallout. The special attachment to land in many developing countries raises the possibility that broad-based acceptance of a more intensively-used property tax is not likely. This problem has strong similarities with that of collecting user charges for services considered to be essential to life (e.g., housing, water, electricity). Ultimately it becomes an issue of political will and very few developing and transitional countries have been able to exercise that will. However, there are exceptions; for example, South African local authorities have in the past used the threat of cutting off electricity for failure to pay the property tax or the utility bill.

## Taxpayer Attitude

A third disadvantage is that the property tax is terribly unpopular with voters, and as a result, politicians are loathe to rely too heavily on it. Per dollar of revenue raised, property taxes may generate more negative reaction than any other levy. There are several reasons for this degree of unpopularity. One is that the tax is levied on (unrealized) accretions to the wealth of an individual or a business, and these accretions do not necessarily correspond to income received. Even without increases in value, the property tax is essentially a tax on the potential income from holding some form of property (real estate) in the form of opportunity rent or the value of using one's own home. The holding of some other forms of property, for example, stocks or other financial assets, only gets taxed upon realization. This creates not only special implementation problems (for example, how to treat those living on fixed incomes) but it also creates a general hostility towards this tax. The unpopularity of the property tax is also a bi-product of the judgmental approach to assessment that is taken almost everywhere. A proposed increase in the tax rate on a tax base that is determined in uncertain or even mysterious ways is bound to provoke negative reactions. Finally, the tax is unpopular in part because it is so visible. Most income tax payers are subject to withholding, but even so, may not be able to accurately report their annual payment. Consumption taxes are paid in small increments, and are often obscured in the final price of the merchandise. Most could not even estimate the annual amount of VAT that they may pay. The property tax, on the other hand, is highly visible in that it is usually billed annually or quarterly, and property owners are much more likely to know exactly what they pay.

## Elasticity

Government officials desire a tax that exhibits an automatic revenue growth. This protects them from returning regularly to the voters for permission to increase the tax rates every time the demand or cost of public services increases. The property tax is not an income-elastic tax. The basic problem is that reassessments occur only on a periodic basis, hence year-to-year growth in revenues is mostly due to the addition to the tax base through construction. When revaluation is too infrequent, say every 5 or 10 years, it leads to large one-time increases in tax liability, and to voter uproar from the shock. As a result, countries use various means to cushion the shock but these many times end up reducing the effective rate of property tax. Some innovations introduced internationally to deal with the issue of low elasticity include indexation, for example used in Jordan, Colombia and Brazil, of the phasing-in of the reassessed values as in the Philippines (Guevara and Yoingco, 1997).

### **III. An Overview of Revenue Performance**

Despite the *a priori* potential of property taxes, these are far from being a mainstay of the revenue system in developing and transitional countries. Still, the property tax can be revenue productive, and often contribute significantly to the financing of sub-national governments in many countries. On average, as shown in Table 1, property taxes in developing and transitional countries raise less relative to GDP than is the case in OECD countries. In the early 2000s property taxes in OECD countries represented 2.12 percent of GDP, while for developing countries this figure was 0.6 percent and for transition countries, 0.68 percent. It is interesting that, the trend for all three categories of countries has been slightly upwards since the 1970s. The data in Table 1 strongly suggest that reliance on the property tax comes with economic development (e.g., compare OECD with developing countries). Some OECD countries make especially heavy use of the property tax. For example, Canada raises a revenue amount equivalent to about 4 percent of GDP, and the US raises nearly 3 percent of GDP. This pattern -- the variation among countries in the intensity of use of the property tax -- is explored below in a more systematic way.

The results presented in Table 2 for the percent of total sub-national expenditures financed by property taxes are particularly interesting. Developing countries may not use the property tax more intensely than do OECD countries, but they would appear to rely more heavily on the property tax to finance sub-national government expenditures. This gives a different perspective about the importance of strengthening the practice of property taxation in the developing countries. But, of course, the fact developing countries finance about 18 percent of sub-national government spending from the property tax is also a reflection of relatively lower sub-national government expenditures in developing countries and the fact that sub-national governments in developing countries generally have fewer options for local taxes. For example, income taxes are much more common at the sub-national level in OECD countries.

The average figures in Tables 1 and 2 tend to hide considerable levels of variation in the use of property taxes within each of the three categories of countries represented there.<sup>5</sup> What we want to ask next is, besides the level of economic development, what other external institutional factors may help explain variations in the use of property taxes.

#### **IV. Fiscal Decentralization and the Property Tax**

Although we must recognize that there are many different factors that actually affect the relative use of property taxes, a useful approach to explaining the relative demand for property taxation in a country is to view this demand as derived from the demand for fiscal decentralization on the part of the national electorate in that country. A reasonable working hypothesis is that countries that seek greater fiscal decentralization will rely more heavily on property taxation.

The argument is straightforward. Fiscal decentralization, to be truly effective, requires autonomous sub-national government taxes. The criteria for choosing a good sub-national government tax point to property taxation as a logical choice. Consider the following:

- A good local tax is one where there is a correspondence between the boundaries within which the expenditure benefits are received, and the boundaries within which the tax burden falls. The property tax comes close to satisfying this condition for both second and third tier governments.
- Under good administration, and with a commitment to provide important services, the property tax can be a significant source of revenue for sub-national governments. Potentially, the tax base is large and income elastic.
- Sub-national governments, particularly third tier local governments, may have a comparative advantage in assessing the property tax base because of their familiarity with the local economy and its land use patterns.
- Higher level governments are not likely to aggressively compete for the right to levy property taxation, because it is a high cost method of raising revenue, it is politically unpopular, and because central governments do not have a comparative advantage in assessing the base.

In this section we test this hypothesis this fiscal decentralization drives the intensity of use of the property tax with the help of a multi-country panel data set drawn from *GFS* of the International Monetary Fund and from several other sources. We measure fiscal decentralization as subnational government expenditures as a percent of total government

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<sup>5</sup> See Bird and Slack (2004) and Malme and Youngman (2001) for descriptions of individual country property taxes.

expenditures. In order to test the role of fiscal decentralization on the relative use of property taxation we need to control for other variables that are expected to affect the dependent variable. In particular, we expect that reliance on property taxation may be higher across countries and over time the greater the degree of urbanization. Both land and improvement values tend to increase significantly in value in urban centers, and with this comes a heightened attractiveness of property taxation. Besides the degree of urbanization we control in the regression analysis for GDP per capita, because we have seen that for a variety of institutional reasons richer countries tend to make a higher use of property taxation. Transitional countries are identified by a dummy variable; even controlling for income per capita differences, transitional countries present very distinct institutional peculiarities such as history of land ownership, titling etc, which may affect the relative use of property taxation. We also control for population size and the rate of growth of population.

The estimation is based on a panel of 70 countries for three years, 1990, 1995 and 2000. Although data for many of the variables are available on an annual basis, the restriction to three years is imposed by the data availability for the urban population ratio. Besides the International Monetary Fund *GFS*, we use data from the World Resource Institute<sup>6</sup> for GDP per capita, population, and population growth rate. The data for urbanization are from the United Nations.<sup>7</sup>

The regression results are presented in Tables 3 and 4. But before we discuss these results, we need to address several econometric issues. Because of the possible nonlinear effects of population and GDP per capita, these two variables are entered in the regression in logarithms. Given the cross-country nature of the data set, there are potentially a number of issues specific to each of those countries for which we cannot control in the regressions but nevertheless may have an impact on the behavior of the dependent variable (property taxes relative to GDP). In this case the appropriate approach may be fixed or random effects estimation. However, because we are restricted to three years and because of missing data for some of the variables we end up with an unbalanced panel data set with 107 observations; this does not support a fixed effects estimation approach for 70 different countries. Instead we use ordinary regression and allow for the presence of time effects by using dummy variables for 1990 and 1995.

In Table 3 we present the OLS results and in Table 4 the TSLS results. The need for using two-stage least squares arises from the potential endogeneity of the main control variable of interest, the level of fiscal decentralization. It may be that decentralization not only affects the relative use of property taxation as hypothesized here, but also that, in a reverse causation, the presence or relative ease of property taxation may also affect the extent of decentralization. In fact, the Hausman test for endogeneity shows that we cannot reject the possibility that the decentralization variable is indeed endogenous. For

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<sup>6</sup> The World Resource Institute: [www.earthtrends.wri.org](http://www.earthtrends.wri.org).

<sup>7</sup> "The World Urbanization Prospects: The 2003 Revision" from the Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat 2004.

this reason we run as an alternative two-stage least squares, where in the first stage we use as instruments for decentralization a dummy variable denoting whether the country is an ex-British colony,<sup>8</sup> and population growth rates.

Both results from the OLS and TSL estimation show that the coefficient for fiscal decentralization is positive and statistically significant, being much larger in the second case. This fundamentally supports the hypothesis that the demand for the use of property taxation derives in part from the level of decentralization. The degree of urbanization, as expected, takes a positive and statistically significant coefficient in the TSLS estimation. The log of per capita income is positive and highly significant in both equations. The year dummy variables and the dummy for transitional countries are not statistically significant while the log of population is negative and significant and the growth rate of population is positive and significant.

We may use these findings to help explain the slow growth of the property tax in developing countries, as was reported above in Table 1. As we show in Table 5, there has been little growth in the fiscal decentralization ratio over the past three decades. For developing countries, the level of fiscal decentralization, measured by sub-national government expenditures as a share of total government expenditure, was about 13 percent, on average, in the 1970s, and was marginally lower in the 1990s-2000s. Based on the estimated coefficient for decentralization in Table 4, we can say that, other things equal, if the decentralization ratio had increased by 5 percent for developing countries in the 1990s, the ratio of property tax revenue of GDP would, on average, have been in that decade close to 0.6, or the average level reached in the 2000s by that group of countries.

With an adjusted R-square of 0.46 for the regression in Table 4 we are far from explaining satisfactorily what goes in to determining the intensity of use of property taxation. The lack of consistent data is a major difficulty. For example, the arguments for property taxation are that it is a tax most suitable for third tier local governments, i.e., for city and municipal local governments that are small enough to capture the advantages of familiarity in setting tax rates that reflect voter preferences for financing local services and small enough to capture the comparative advantages of familiarity in assessing property. Thus, a reasonable additional hypothesis would be that the larger the importance of local governments in the sub-national government sector (local plus regional) the higher the intensity of use of property taxation.<sup>9</sup> Unfortunately, the International Monetary Fund GFS does not always show this breakdown (or they show it on an inconsistent basis). Therefore, it is not possible for us to introduce this type of variable in the regressions in Tables 3 and 4. In Table 6 we use available data to describe the importance of third tier local governments in fiscal decentralization in recent years. What one can intuit from Table 6 is that even if this additional hypothesis were correct,

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<sup>8</sup> This includes Canada and the US. This variable may not be the ideal instrument because it may be correlated with the errors in the OLS regression, but finding a good alternative instrument for decentralization is a notoriously difficult problem for the entire fiscal decentralization literature.

<sup>9</sup> A corollary of this reasoning is that other taxes, such as personal income or consumption taxes are more easily applicable at the regional level so that the larger the importance of the intermediate level governments in the sub-national government sector, the lower the relative use of property taxation vis-à-vis other taxes.

little change in the intensity of use of the property tax should have been expected because, if anything, the relative importance of local governments in the sub-national sector has slightly decreased in recent years.

### V. How to Strengthen the Revenue Performance of the Property Tax

As shown in Table 1, the property tax share of GDP has not increased significantly over the past thirty years. In the previous section of this paper we have identified several “external” institutional reasons for this performance, for example, the lack of a deepening of fiscal decentralization. There are other “internal” institutional reasons, having to do with how property taxes are actually structured and administered, that no doubt contribute to the overall lackluster performance of property taxation. These factors are especially relevant in the developing world. Data are not available for us to analyze these “internal” determinants of revenue growth on a country-by-country basis. However, we might use *a priori* reasoning to speculate on what has gone wrong and then try to illustrate those conjectures with examples and information from selected countries.

In order to identify some of the elements at play we use the following identity, which describes the components or steps that go into identifying the ratio of property tax revenues to GDP in any particular country.

$$\frac{T_c}{y} = \left( \frac{T_c}{T_L} \right) \left( \frac{T_L}{AV} \right) \left( \frac{AV}{TMV} \right) \left( \frac{TMV}{MV} \right) \left( \frac{MV}{y} \right)$$

where,

$T_c$	=	Property Tax Revenue Collections
$y$	=	GDP
$T_L$	=	Property Tax Liability
$AV$	=	Taxable Assessed Value
$TMV$	=	Taxable Market Value
$MV$	=	Full Market Value

The term on the left of the identity is the ratio of property tax revenue collections to GDP. It is the wide variation in this ratio (reported in Table 1) that we would like to explain. Why do some countries realize a much higher effective property tax rate than do others? Our focus here is on the components of the tax structure and its implementation, particularly on assessment and collection.

The first term on the right is the collection ratio, i.e., the percent of true liability that is collected. In developing countries, where enforcement is often lax, collection rates as low as 50 percent are not unusual. Some examples, presented in Table 7 support this argument.<sup>10</sup>

Even the low collection rates reported in Table 7 may be overestimates, because in some cases they include collections of arrears in the numerator, but only current year liabilities in the denominator.

The second term, the ratio of tax liability to assessed value, describes the tax rate. The higher the legal tax rates, the higher value of this term. Governments in all countries face great pressure to keep the nominal rates low, because of the unpopularity of the property tax. A typical range for tax rates may be between 0.5 and 1.0 percent for countries using a capital value system.

The third term is the ratio of assessed value to taxable market value. This describes the efficiency of the valuation process and also discretionary decisions to reduce the base offered by the taxable market value by applying an assessment ratio that is less than 1.0. If no discretionary assessment ratios were applied, and all properties on the roll were valued at 100 percent of full market value, this ratio would be 1.0. In practice, valuation rates can be as low as 20 percent. As mentioned, assessed values are sometimes low because legally they are set at something less than full market value. The overwhelming evidence from developing countries is that properties are dramatically under assessed. Some evidence on assessment ratios is given in Table 7.

The ratio of taxable market value to total market value gives an indication of the impact of exemptions and preferential treatments on the property tax base. In many countries, sizeable exemptions have been provided, depleting the tax base. These range from preferential treatment for homeowners to property tax holidays for new businesses. Another important reason why the taxable market value may be much lower than full market value is that many properties are not valued at all. Again, some evidence is presented in Table 7. For example, in the case of Chile, two-thirds of all property is reported to be exempt. Another cause for the divergence between taxable market value and total market value is the failure to discover and incorporate new construction to the tax rolls.

Finally, the ratio of market value of real property to GDP tells us how property values match up to total output in the economy. For example, in an urbanized country, one might expect a higher (and growing) ratio of market value of property to total GDP. Local governments can exert little control over this component of revenue performance. We have no evidence on this last term, and treat it simply as a residual to complete the identity.

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<sup>10</sup> There are other numerous examples of low collection rates. For example, Iregui et al. (2004) report effective collection rates of 80 percent for a large sample of Colombian municipalities in the 1999-2002 period; Kim (1993) reports collection efficiency in Indonesia of 65 percent.



In sum, what this identity tells us is that the administrative and policy reasons for the poor revenue performance of the property tax in developing countries are numerous, but are largely within the control of the local governments.

The importance of this point can easily be illustrated by running a simple simulation to identify the potential revenue impacts of local government administrative reform, as shown in Table 8. In the columns of Table 8, we show the components of the property tax identity presented above, e.g., in column 1 is the ratio of property tax to GDP, in column 2 is the collection rate, and so on. The first row of Table 8 shows the baseline simulation, where the values of all the parameters are reasonably chosen so that the resulting property tax effort is 0.6 percent of GDP, the international average for developing countries as we had found in Table 1 above. The parameters of concern are the collection rate, the assessment ratio and the exemption policy, and in those cases we have chosen values that seem more or less reflective of the actual practice. A statutory tax rate of about 0.5 percent seems a reasonable assumption, though we will not vary this component of the simulation. The ratio of market value to GDP (which may hold many other factors) is calculated as a residual to satisfy the identity.

The results of the simple simulation show the following:

- In row two we vary only the collection rate, from 50 percent to 70 percent. The result is that the property tax share of GDP increases from 0.6 percent to 0.84 percent, i.e., it increases by about one-third.
- In row three we vary only the assessment ratio, from 50 percent to 75 percent. The result is that the property tax share of GDP rises to 0.9, an increase of nearly 50 percent.
- In row four we eliminate exemptions and do not change anything else. The result is that the property tax share of GDP rises to 0.75, i.e., an increase of about one-fourth.
- In row five, we vary all three of these factors together, and get a more than doubling of the property tax share of GDP.

In summary, this simple simulation illustrates that quite plausible improvements in government administrative and design practices can move the property tax to a much more significant place in the revenue system of developing countries. Getting property taxes to rise by 1 percent of GDP will generally imply a significant jump in the financing capacity of local governments in many countries around the world. In Table 9 we perform an additional simple simulation to illustrate that point. If for the sample of countries in our data set (used to run the regressions in Tables 3 and 4) we select first those countries that collect in property taxes less than 1 percent of GDP and then we allow those countries to collect in property taxes up to 1 percent of GDP, the average increase in sub-national government revenues would be around one-third.

But, of course, we remain aware that even small improvements in some of these parameters can be hard to produce. What is worse, big efforts are often put together to improve one of two of the critical parameters just to see the deterioration of other parameters, thus with overall little impact on actual revenue collections. For example, Dillinger (1988) reports how the Philippines' "Property Tax Administration Project" was successful in producing tax maps and updated property assessments, but this effort never yielded a substantial increase in revenue because the poor collection practices were never addressed. Even though valuations increased by 37.5 percent and collectibles by 13.6 percent, actual tax revenues increased by only 1.1 percent. In contrast, as Kelly (1993) reports, the Indonesian reform was more successful. By focusing on improved collection efficiency and improved valuation and assessment, property collection efficiency rose from 65 to 79 percent, and the share of property tax revenue in total own source revenue almost doubled between 1990 and 1991.

## **VI. The future of the property tax in developing countries**

Making property taxes work more effectively in developing and transitional countries is a complex challenge. Although many "internal" and "external" factors are involved, we speculate that the future of the property tax in these countries is mainly dependent on four factors: the pace of decentralization, the efficacy of shortcuts to valuation of property, technology catch-up, and the willingness of the central governments to give local governments access to other productive tax bases.

Factor #1: Despite being one of the most talked about development strategies in the past two decades, decentralization has hardly taken off. Although there are now many decentralized and decentralizing developing countries, the average expenditure share of sub-national governments in total government spending is considerably less than in developed countries and has barely budged from its 15 percent level in the 1970s. However, more elected officials are bringing pressure, there is a continuing reaction against central governments that have become too controlling, and there is a political strategy to promote bringing governments closer to people. All of this could lead to increased decentralization. As decentralizing countries turn to the job of identifying revenue sources for local governments, an expanded property tax will be an obvious choice.

Factor #2: Administrative cost is arguably the biggest constraint to the growth of the property tax. It is just too expensive, and too hard to properly levy and enforce. So, countries are turning increasingly to "shortcuts" to address this problem. The introduction of notional valuation based on location and area, self-assessment, indexing between valuation periods, and the exemption of "hard to tax" properties are all examples of such shortcuts. Will these innovations save the property tax, or destroy it?

The approach that is gaining currency in developing countries appears to be area-based assessment. This is both inexpensive to do and simple enough to be acceptable to tax payers. However, at base it requires a judgmental assessment of value per square meter

in each of the valuation zones prescribed by the regional or local government. These notional values will require adjustment each year in order to build any elasticity into the property tax. Moreover, the idea that all properties in a zone can be subjected to the same notional valuation per area unit may turn out to be an enemy of fairness in property taxation. Area-based assessments are likely to improve the revenue yield of the tax, and to give a better ratio of administrative cost to collections, but local governments are not likely to move to a higher intensity of property tax use with this approach to valuation.

Factor #3: Will technology save property tax administration in developing countries? In general, developing countries appear to be closing the technology gap at a much faster rate than they are closing the income gap. Can new technologies such as computerized mass appraisal, satellite-aided mapping, cross-referencing,<sup>11</sup> and so on, circumvent the high costs and time delays associated with the valuation process? Will it soon be possible for local governments to keep up-to-date records of land characteristics and ownership? If new technologies in property tax assessment, collection, and record keeping do catch on, they could minimize much of the current problem with the property tax in developing nations.

Factor #4: Will central governments release other productive revenue sources to local governments? Examples are the right to tax payrolls, piggyback personal income taxes and excises, business taxes, and taxes on the use and ownership of motor vehicles. To the extent these “easier” tax sources are available to local governments, then the property tax might be minimized as a sub-national government revenue source.

In sum, property taxation is still full of potential but also full of uncertainty as an instrument for bringing revenues and accountability to sub-national governments in developing and transitional countries around the world.

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<sup>11</sup> Dillinger (1989) describes the successful practice in some Brazilian municipalities of using data provided by other agencies to flag changes in the tax base.

**Table 1**  
**Property Tax Revenues as a Share**  
**of GDP**

	1970's	1980's	1990's	2000's
<b>OECD Countries</b> <i>(Number of Countries)</i>	1.24 16	1.31 18	1.44 16	2.12 18
<b>Developing Countries</b> <i>(Number of Countries)</i>	0.42 20	0.36 27	0.42 23	0.60 29
<b>Transition Countries</b> <i>(Number of Countries)</i>	0.34 1	0.59 4	0.54 20	0.68 18
<b>All the Countries</b> <i>(Number of Countries)</i>	0.77 37	0.73 49	0.75 59	1.04 65

Source: International Monetary Fund Government Finance Statistics Yearbook, various issues.  
Source: International Monetary Fund Government Finance Statistics Yearbook, various issues.

Note: The average of year 2000's data is retrieved from year 2000-2001 data.

**Table 2**  
**Property Tax Revenues as a Share**  
**of Total Subnational Government Expenditure**

	1970's	1980's	1990's	2000's*
OECD Countries <i>(Number of Countries)</i>	9.7 16	9.88 17	13.65 16	12.40 19
Developing Countries <i>(Number of Countries)</i>	18.65 21	15.97 27	13.49 24	18.37 20
Transition Countries <i>(Number of Countries)</i>	3.67 1	4.92 4	7.75 18	9.43 20
All the Countries <i>(Number of Countries)</i>	14.49 38	12.89 48	11.63 58	13.40 59

\* The data for 2000's are from 2000 to 2004.  
Source: Columns 2 and 3 are based on IMF GFS 2002; Columns 4 and 5 have been calculated from IMF GFS

September 2006.

**Table 3**  
**The determinants of the relative use of property taxation (dependent variable: property tax revenues to GDP) OLS estimation**

<b>Variables</b>	<b>Coefficient Estimate</b>	<b>T-Stat</b>	<b>Prob&gt;t</b>
Constant	-2.012	-3.80	0.000
lgdpcap	0.322	5.11	0.000
lpop	-0.069	-1.85	0.068
decent	1.496	3.25	0.002
urbanpct	0.855	1.77	0.080
pgr	24.43	3.32	0.001
transition	-0.102	-0.48	0.630
dy90	-0.132	-0.70	0.485
dy95	-0.223	-1.27	0.208

Number of obs	107
F (8,98)	13.09
Prov>F	0.0000
R-squared	0.5166
Adj R-squared	0.4772
Root MSE	0.7005

**Variable list :**

lgdpcap = Logarithm of GDP per capita

lpop = logarithm of population amount

decent = decentralization, measured as subnational revenue/national revenue

urbanpct = percent of urban population to total population

pgr = average of population growth rate

transition = dummy of countries in transition

dy90 = dummy of year 1990

dy95 = dummy of year 1995

**Table 4. The determinants of the relative use of property taxation (dependent variable: property tax revenues to GDP) TSLS estimation**

<b>Variables</b>	<b>Coefficient Estimate</b>	<b>T-Stat</b>	<b>Prob&gt;t</b>
Constant	-6.487	-4.47	0.007
lgdpcap	0.362	5.87	0.000
lpop	-0.042	-1.16	0.864
decent	12.766	3.00	0.013
urbantpct	1.226	2.52	0.014
pgr	78.942	3.78	0.589
transition	0.015	0.07	0.754
dy90	-0.2329	-1.25	0.707
dy95	-0.3109	-1.76	0.157

Number of obs	107
F (8,98)	12.72
Prov>F	0.0000
R-squared	0.5093
Adj R-squared	0.4693
Root MSE	0.7058

**Table 5**  
**Fiscal Decentralization Indicators**

	1970s		1980s		1990s-2000s		
	Developing Countries	OECD Countries	Developing Countries	OECD Countries	Developing Countries	OECD Countries	Transition Countries
Subnational Government Tax as a share of Total Government Tax	10.68	17.91	8.87	18.18	10.61	18.39	22.41
	(43)	(24)	(33)	(23)	(28)	(21)	(23)
Subnational Government Expenditure as a share of Total Government Expenditure	13.42	33.68	12.09	31.97	12.97	32.68	30.32
	(45)	(23)	(41)	(24)	(54)	(24)	(24)
Note: Sample sizes are in parenthesis							

Source: Bahl and Wallace (2003), updated.



**Table 6**  
**Ratio of Third Tier Government Expenditures**  
**to Total Subnational Government Expenditures:**  
**Selected Countries**

	1990s	2000s*
<b>OECD</b> <i>(Number of Countries)</i>	53.91 <i>10</i>	46.89 <i>10</i>
<b>Developing</b> <i>(Number of Countries)</i>	40.97 <i>8</i>	40.63 <i>8</i>
<b>All The Countries</b> <i>(Number of Countries)</i>	47.44 <i>18</i>	29.17 <i>18</i>

Note: The table excludes countries with 100% Local Exp/ (Local + Regional) Exp

\*: These data covers 2000 to 2004

Source: International Monetary Fund

**Table 7**  
**Selected Measures of Property Tax Administration**

<b>Country</b>	<b>Collection Rate</b>	<b>Assessment Ratio</b>	<b>Selected Exemptions (partial or total)</b>
Philippines (Rosengard, 1998)	50-60% of current billings in 1990	Legal assessment ratios vary from 15% to 80%	Assessment ratios vary by value class and by property use
Jamaica (Sjoquist, 2004)	40 percent in 2004	The median assessment ratio was 11 percent between the general revaluations.	Certain agricultural properties
Chile (Rosengard)	73 percent in 1990		Two-thirds of all property is exempt
Indonesia (Rosengard)	80 percent in 1990	Legal assessment rates of 20 percent	
Kenya (Kelly, 2004)	10-60 percent	Actual rates vary between 20 and 70 percent	
Colombia (Bird, 2004)		70 percent in Bogota, 85 percent in Medellin.	

**Table 8**  
**Simulated Impacts of Alternative Property Tax Administration Reform**

(bold figures indicate parameter deviations from baseline values)

$$\frac{T_c}{y} = \left(\frac{T_c}{T_L}\right) \left(\frac{T_L}{AV}\right) \left(\frac{AV}{TMV}\right) \left(\frac{TMV}{MV}\right) \left(\frac{MV}{y}\right)$$

Baseline	0.6	0.5	0.05	0.5	0.8	60
Scenario 1	0.84	<b>0.7</b>	0.05	0.5	0.8	60
Scenario 2	0.90	0.5	0.05	<b>0.75</b>	0.8	60
Scenario 3	0.75	0.5	0.05	0.5	<b>1.0</b>	60
Scenario 4	1.58	<b>0.7</b>	0.05	<b>0.75</b>	<b>1.0</b>	60

**Table 9**  
**Simulations of Revenue Implications of Property Taxes**  
**Representing 1 percent of GDP**  
**Year 2000 (21 countries)**

Selected Countries	Actual Property Tax GDP	Percent Revenue Increase of Subnational Government with property tax equal to one percent of GDP
Austria	0.1	4.7
Bulgaria	0.3	9.2
Chile	0.7	13.1
Croatia	0.5	9.2
Czech Republic	0.5	1.4
Estonia	0.5	7.7
Ethiopia	0.2	7.0
Hungary	0.7	2.2
Indonesia	0.1	66.0
Iran, I.R. of	0.2	45.5
Italy	0.9	0.6
Jamaica	0.2	141.9
Lithuania	0.6	6.0
Romania	0.5	11.5
Slovak Republic	0.6	17.8
Slovenia	0.7	3.9
Sri Lanka	0.7	79.9
Swaziland	0.1	130.0
Thailand	0.3	34.5
Uganda	0.1	20.1
Ukraine	0.0	9.2
<b>Mean Values</b>	<b>0.4</b>	<b>29.6</b>

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