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Taxing Immovable Property

Revenue Potential and Implementation Challenges

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Abstract

The tax on immovable property has been characterized as probably the most unpopular among tax instruments, in part because it is salient and hard to avoid. But economists continue to emphasize the virtues of the property tax owing to its relatively low efficieny costs, benign impact on growth, and high score on fairness. It is, therefore, generally considered to be underutilized in most countries. This paper takes stock of the arguments for using real property taxation, and presents an updated data-set for high-and middle income countries to illustrate its use. It also reflects the renewed and widespread interest in property tax reform globally, and discusses the many policy and administrative issues that must be carefully considered as prerequisites for successful property tax reform.

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I. INTRODUCTION

Property taxes are widely regarded as an efficient and equitable means of raising revenue, but with a revenue potential that is largely untapped in many countries.[2] Property taxes generally yield relatively modest revenue, particularly in developing and emerging economies, but there are also large disparities across countries which signal popular opposition as well as technical constraints in their administration—but also a potential for enhanced utilization. The differences of opinion are probably starker on property taxation than on most other taxes. While economists tend to strongly favor increased reliance on property taxes owing to their attractive economic properties, there is a widespread popular and hence political resistance to their increased use stemming in part from their transparency and relatively limited scope for tax avoidance and evasion.[3]

Increased use of property taxes could conceivably help ease problems with taxes levied on mobile bases. Much policy debate in recent years has focused on the revenue losses and efficiency costs stemming from levying taxes on highly mobile tax bases in a globalized setting. For example, tax competition, aggressive tax planning, and the use of tax havens to shelter income have corroded tax bases and invited introduction of a plethora of often costly policy and administrative measures to safeguard national tax bases and powers.[4] Less attention has—until recently—been directed at the alternative policy route of meeting revenue objectives by strengthening "immobile" tax sources such as in particular immovable property taxes.

There is now a strong and renewed interest in property taxation around the globe. This clearly manifests itself in numerous reform initiatives recently adopted or considered in different countries (Box 1 provides a few examples) but also in a rich recent literature focusing not least—but not solely—on developing and transition economies.[5] The revived interest may have different motivations in different country groupings, with for example, devolution of fiscal powers to strengthen local democracy a driving force in some transition economies, while in many developing countries the lead motives are revenue mobilization and providing incentives for better land use.

This paper provides the case for, and ways to overcome obstacles to, their strengthening or (re)introduction. Chapter II discusses the nature of property taxes and their yield in different countries, while Chapter III presents the economic rationale for increased use of the tax.

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[2] Although a distinction should be made between taxation of business and residential properties in respect of both their economic effects and revenue potential.

[3] A paper by Cabral and Hoxby, "The Hated Property Tax: Salience, Tax Rates, And Tax Revolts", suggests that the salience of the tax can explain differences in the level of property taxes across areas.

[4] Such as, for example, transfer pricing provisions, a multitude of exchange of information arrangements (such as the EC's interest directive and the Global Forum), controlled foreign company legislation, and thin capitalization provisions.

[5] See, for example, Bahl, Martinez-Vasquez, and Youngman (2008) and (2010).

Chapter IV discusses obstacles, both political and administrative, that are facing policy-makers when reforming property taxes. Chapter V presents the contours of an action plan for the implementation of property tax reform while Chapter VI concludes.

Box 1. Recent Property Tax Reforms and Plans

Namibia recently introduced a central government land tax on the value of agricultural land (with a basic rate of 0.75 percent) to supplement the existing municipal tax on urban property, with the primary aim of encouraging efficient utilization of agricultural land.

Liberia reformed the rate structure of the real property tax with effect from 2011 and is contemplating further reform measures to strengthen property rights and the revenue potential of the real property tax.

Cambodia introduced a new property tax in 2011, in principle based on assessed market values of land and buildings. The tax is being piloted in a limited number of urban areas.

China decided to introduce residential property taxation starting in 2011, in part aimed at reining-in speculation and strong price appreciation in the property sector, and in part to address the country's widening wealth gap and provide local governments with a significant revenue source. Pilot projects are conducted in two cities, Shanghai and Chongqing, to be followed in due course by other cities.

Hong Kong SAR introduced in early 2013 a new special property transaction tax (the 'buyer's stamp duty') at 15 percent of the transaction price covering non-local buyers and all corporate buyers, aimed at curbing speculation and high property price appreciation.

Singapore also increased stamp duties on certain home buyers which, together with a broader set of measures, is aimed at curbing property price increases and prevent an asset-price bubble.

Vietnam adopted in June 2010 a new area-based tax on non-agricultural land (excluding housing) and is considering further reform in this area.

Croatia is in the process of introducing a new ad valorem property tax at a uniform tax rate of 1.5 percent, to replace existing 'utility fees' and the second home tax.

Greece adopted in late 2011 a new square-meter tax at varying specific rates, collected over the electricity bills. The reform was part of a broader 'crisis' package.

Ireland abolished the residential property tax in 1997 (leaving the local 'rates' on commercial property as the only recurrent property tax). A new market-value-based property tax is expected to come into effect in mid-2013 to replace the annual household charge of €100 put in place on January 1, 2012 as part of a broader fiscal package.

Latvia implemented reform measures in 2010 by introducing a residential property tax on buildings to complement the existing land tax, and additional measures are considered.

Serbia plans an in-depth modernization of its property tax system to replace the system of taxes based on property rights in tandem with a planned land privatization reform.

Slovenia is replacing three pre-existing duties on property with one uniform and modern system of real property taxation based on mass appraisal of market values and a new real estate register.

Egypt adopted a new real estate law with a rate of 10 percent applied to estimated rental income, effective 2009 but with a delayed application until 2012.

Kyrgyzstan introduced with effect from January 1, 2009 a new property tax for companies and individuals on top of the existing land tax.

Several **Caribbean** countries are contemplating introduction or strengthening of property taxes, in part because their highly open economies are exposed to regional tax competition.

El Salvador is one of the few Latin American countries (together with Paraguay and Costa Rica) at present without an immovable property tax, but is considering introducing one.

II. PROPERTY TAXATION—CONCEPTS AND YIELD

While generally associated with the notion of recurrent (annual) taxes on immovable property, 'property taxes' in practice encompass a variety of levies on the use, ownership, and transfer of property. These are taxes with very different objectives and varying yields. According to standard international tax classifications,[6] property taxes encompass recurrent taxes on immovable property, measured gross of debt and levied on proprietors or tenants; recurrent taxes on net (of debt) wealth; taxes on estates, inheritances and gifts; financial and capital transaction taxes on the issue or transfer of securities and checks, or sales of immovable property; and other recurrent or non-recurrent taxes on property. While recurrent taxes on immovable property are the key focus of this note, the remainder of this section presents information also on the broader concept of property taxes.

How much do immovable property taxes generally yield? Due to deficient data coverage and quality, it is not a straightforward exercise to summarize the importance of and trends in property taxes on a global scale, and information on levels and trends is sensitive to the choice of data sources, periods and regions analyzed. Data are particularly scarce for developing and transition countries—not least with regard to consistent time-series—whereas data for OECD countries are comprehensive. The dataset compiled for the purpose of the paper covers generally the period 1990–2010. The data for 2010 are re-produced in Appendix Tables 1–4 of the paper. This section presents information available concerning key features of property taxes across countries with the focus first on their composition and then on levels and trends. It also discusses the importance of property taxes for local governments, and the issue of how much an immovable property tax potentially could yield. The section first addresses the broader concept of property taxes, and then the quantitative aspects of immovable property taxes—the main focus of the paper.

The broader concept of property taxes

Largely dependent on their adopted policy objectives, countries differ substantially with regard to their use of the different property tax sources. Some countries place emphasis on providing a stable and substantial source of revenue for sub-national governments through immovable property taxes, while others prioritize general revenue raising (by using mainly capital transfer taxes),[7] or enhancing the progressivity and fairness of the overall tax system

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[6] The main ones being GFS and OECD's Revenue Statistics.

[7] Capital transfer taxation is a buoyant tax handle in some countries (including in some non-OECD countries such as South Africa), but is also generally acknowledged to generate potentially large efficiency costs, and may, furthermore, have negative spill-over effects on the working of immovable property tax systems as discussed in Section IV below.

(by relying on taxes on net wealth or inheritance and gifts).[8] The property tax structure for the few countries presented in Table 1 reflects the large variety among OECD countries in the weights attached to these different policy objectives. Countries such as New Zealand, Poland, and the United States (together with the United Kingdom, Japan, and Canada, not shown) levy property taxes mainly on immovable property, while Germany uses a variety of sources including inheritance and capital transfer taxes. So does Greece, but by tapping mainly transfers of property as a base (as do Italy, Korea, and the Netherlands). In contrast, Luxembourg (together with Switzerland and Norway) is among the few remaining OECD countries that continue to raise important revenue from the taxation of net wealth. Among developing, emerging, and transition countries, the recurrent immovable property tax is the only property tax source in countries such as Azerbaijan, Jordan, Georgia, Mongolia, and Ukraine. All countries covered by the dataset raise revenue from immovable property on a recurrent basis (Appendix Tables 3–4).

Table 1. Composition of General Government Property Taxes, Selected OECD Countries 2011

(Total = 100)

	New Zealand	Poland 1/	United States	Germany	Greece 1/	Luxembourg
Recurrent taxes on immovable property	95.5	100.0	96.8	55.6	10.0	3.8
Recurrent taxes on net wealth	0.0	0.0	0.0	0.0	20.0	76.9
Estate inheritance and gift taxes	0.0	0.0	3.2	22.2	10.0	3.8
Taxes on financial and capital transactions	0.0	0.0	0.0	22.2	50.0	15.4
Other	4.5	0.0	0.0	0.0	10.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Total, percent of GDP	2.2	1.2	3.1	0.9	1.0	2.6

Source: OECD Revenue Statistics, 2012.
1/ 2010.

According to available data sources, property taxes are far from being a mainstay of the revenue system in developed, developing, and transition countries. A frequently cited source[9]

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[8] Net wealth and inheritance and gift taxes may rest on a sound rationale in their importance for redistribution from the wealthy (in particular if they apply exemption levels that are high enough to exclude the life-cycle savings of all but the wealthy), and as a useful "backup" to personal income taxes. But they may also discourage savings of the people to whom they apply, and—because of the mobility of their bases—taxation may induce people to move wealth abroad. They also require fairly sophisticated tax administrations, and some countries have scaled-back or eliminated net wealth taxes in recent years, while others have chosen not to introduce them in the first place (for example, Mexico, the UK, and the US have no net wealth taxation).

[9] Bahl and Martinez-Vasquez (2008).

emphasizes that the average revenue raising from property taxes is modest in all three main country groupings, but seemingly with a slightly upward trend since the 1970s (Table 2). The data also suggest that reliance on property taxation (similar to most other taxes) is strongly related to economic development, with the average revenue ratio to GDP in OECD countries being triple that of developing countries. These data, however, cover *total property tax revenue* and thus not only taxes on immovable property—as noted the main focus here.

Table 2. Levels of and Trends in Property Tax Revenues
(Percent of GDP)

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

Source: Bahl and Martinez-Vazquez (2008).

More recent and detailed data with wider country coverage suggest that at least for developed countries, total property tax yields have been broadly stable since the mid-1960s. Figure 1 shows for OECD countries—the only group for which accurate and detailed time-series exist—that the average revenue ratio has been broadly stable around 2 percent of GDP since 1965, albeit with a slight dip during the 1970s and recovery thereafter. It also shows that recurrent taxes on immovable property at roughly half the total constitute by far the largest sub-component, also with a broadly stable revenue ratio at around one percent of GDP during this period (although little is known about the relative importance of policy changes and property prices underlying this trend). Similar data for transition and developing countries are unfortunately not readily available.

In contrast, when measured as a share of total general government tax revenue, the yields of property taxes in OECD countries have declined. The decline took place during the late 1960s and 1970s, with the share stabilizing thereafter, and is mainly a reflection of the trend in immovable property taxes (Figure 2). This decline is the result of buoyant income and consumption taxes and—in particular—social security contributions during this period.[10]

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[10] This fairly recent decline in the reliance on property taxes reflects in some cases a continuation of a much longer and stronger trend: for the US, for example, Wallis (2000) reports that while the property tax in 1902 constituted 73 percent of all local government revenues, and 68 percent of combined local and state revenues, these shares had dropped to 40 percent and 18 percent, respectively, by 1992.

Figure 1. Property Taxes, OECD 1965–2010, Percent of GDP

Composition of Property Tax Revenue

Legend:
- 4000. Taxes on property
- 4100. Recurrent taxes on immovable property
- 4200. Recurrent taxes on net wealth
- 4300. Estate, inheritance and gift taxes
- 4400. Taxes on financial and capital transactions
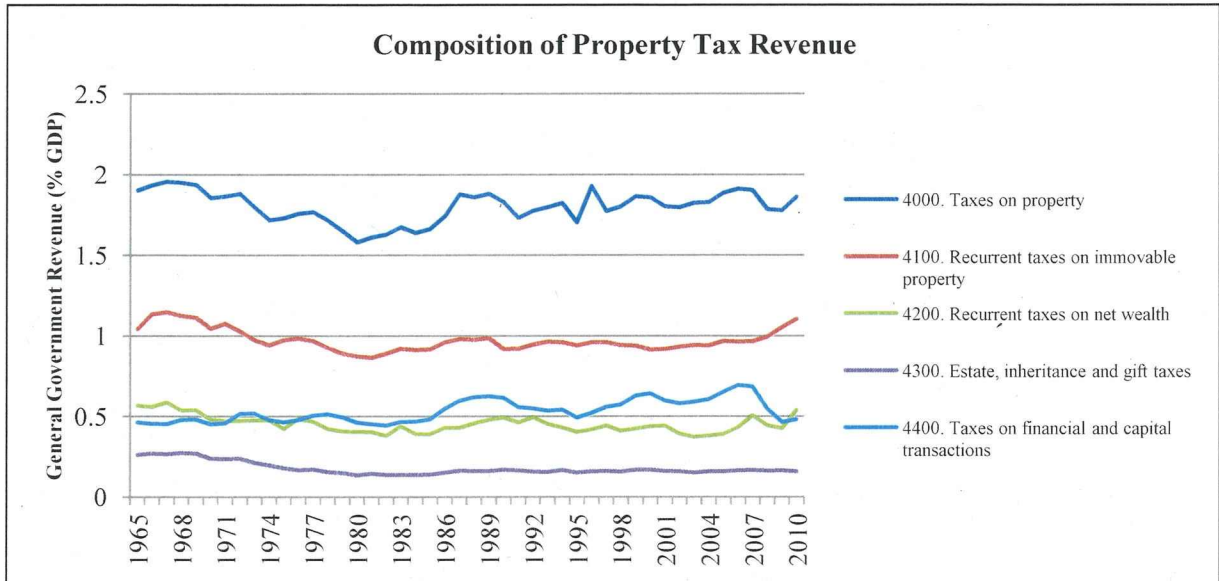
Figure 2. Property Taxes, OECD 1965–2010, Percent of Total Tax Revenue

Composition of Property Tax Revenue

Legend:
- 4000. Taxes on property
- 4100. Recurrent taxes on immovable property
- 4200. Recurrent taxes on net wealth
- 4300. Estate, inheritance and gift taxes
- 4400. Taxes on financial and capital transactions
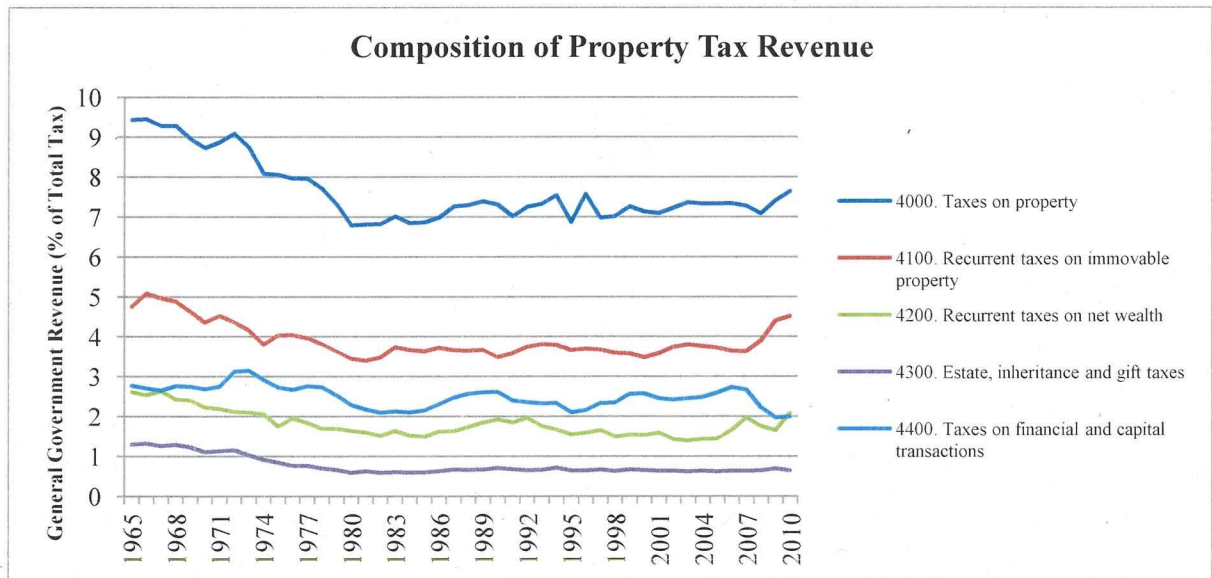
On tax revenue raised from recurrent taxes on immovable property

Reliance on immovable property taxation is broadly (albeit imperfectly) correlated with income levels. The most recent data (for 2009 or 2010) were compiled for OECD and a sample of non-OECD (developing, emerging, and developed) countries and then classified

into high income and middle-and low-income countries.[11] The average yield from immovable property taxes in high-income countries at 1.06 percent of GDP is more than 2.5 times the average level of 0.40 percent of GDP in middle income countries[12] (which in turn splits into 0.33 percent for lower-middle income and 0.44 percent for upper-middle income countries).[13] Figure 3 presents the correlation between immovable property tax revenue in percent of GDP and per capita income levels.

Figure 3. Immovable Property Tax Collections Across Income Levels
(OECD and selected non-OECD countries, 2009)
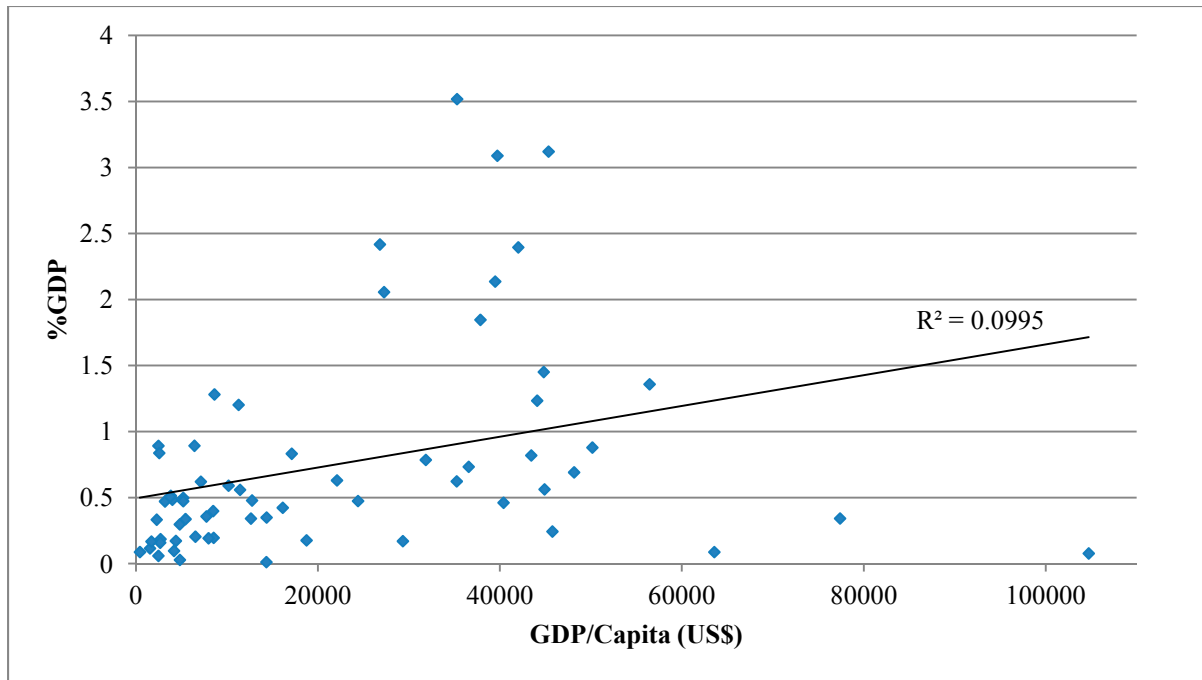
Evidently, cross-country variation in immovable property tax collection increases sharply with income level. Among the high income countries, reliance on immovable property taxes vary from close to nil in Croatia, Luxembourg, and Switzerland, to heavy reliance (revenue more than two percent of GDP) on this source in Canada, France, Israel, Japan, New Zealand, the United Kingdom, and the United States. In contrast, there are more middle income countries that rely only modestly on immovable property taxes such as the Dominican Republic, Mexico, Peru, Tunisia, Albania, Egypt, Moldova, and Mongolia. In

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[11] Using GDP per capita in nominal terms in US$, see Appendix Tables 1–4. Unfortunately, the sample included only one low income country (Afghanistan).

[12] Albeit with large variations within both groups.

[13] Appendix Tables 3 and 4 also show that the yield of immovable property taxes on average represents about 4½ percent of total taxes in high income countries against 2.1percent in middle-income countries.

this group, Bulgaria, Russia, and Georgia stand out by relying to an important extent (close to or above one percent of GDP) on immovable property taxes. The difference between high income and middle income countries with regard to the dispersion of yield-ratios is striking and abundantly clear from Figure 4.
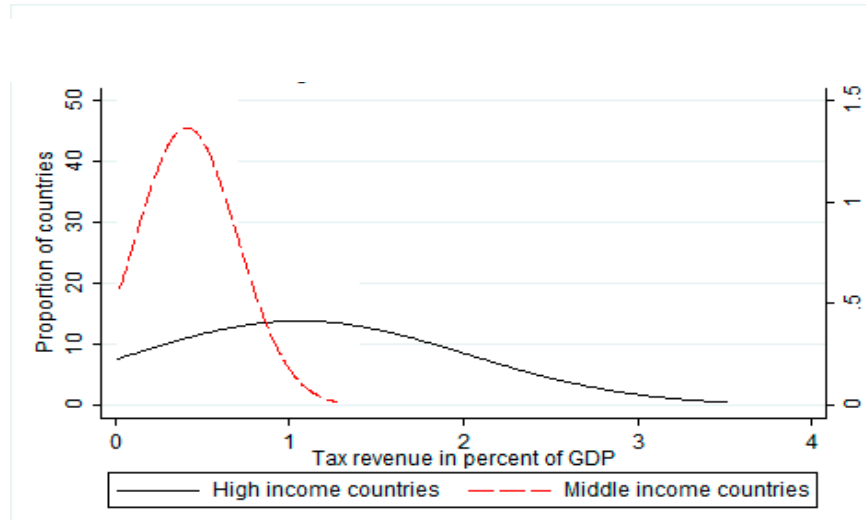
Figure 4. Distribution of Yields from Immovable Property Taxes, 2009

While the immovable property tax may not take up a central position in the overall revenue systems of most countries, it frequently contributes significantly to the financing of local governments. Hence, an almost defining aspect of property taxes is their assignment predominantly to lower levels of government, indicating that increased reliance on this source of revenue involves important issues of inter-governmental fiscal design. Appendix Tables 3 and 4 shed some light on this particular role of immovable property taxes for high income and middle income countries, respectively: the penultimate column show, for example, that the share of the immovable property tax in total local taxes is 100 percent in Australia, Ireland, and the United Kingdom, with an average of 37.7 percent in high income countries, and slightly less (35.5 percent) in middle income countries; and the last column of each of the two tables demonstrates that all of the immovable property tax revenue collected by government accrues solely to local governments in the large majority of both high income and middle income countries.

Interestingly, there are indications that decentralization in itself may incentivize increased revenue mobilization from property taxation. Bahl and Martinez-Vazquez (2008) provide empirical evidence of "reverse causation" in the sense that the demand for property taxation is in itself driven by the level of decentralization. This supports the notion that increased reliance on property taxation ideally should be part of a clearly formulated strategy for strengthened decentralization—an issue beyond the scope of this paper. But the fact that developing, emerging, and transitional countries broadly are less decentralized than

industrialized countries may help explain the generally fairly modest reliance on property taxes in these countries.[14]

How much could the immovable property tax potentially yield? Absent accurate estimates of tax capacity and tax effort in this particular area,[15] a benchmark for revenue collections—admittedly simplistic—reflects the average revenue ratios of the best performers in each income group:[16] for high income countries, that would yield a collection potential of about 2.9 percent of GDP when based on the five best performers, while the similar target in middle income countries would be a much lower 0.9 percent of GDP. If these simple benchmarks are applied to other countries in each group, the potential average revenue increase among this group of 29 high income countries would be 2.1 percent of GDP, while 24 middle income countries on average could raise an additional 0.6 percent of GDP.[17] This suggest a substantial untapped revenue potential from the property tax in many countries, although the net gain in some countries would be tempered by the need to scale-back the use of distortive property *transfer* taxes (discussed below).

Key determinants of the level of recurrent property taxes

Preliminary regression analyses suggest that the level of economic development (as measured by GDP per capita) and urbanization play a substantial role in determining the level of recurrent property taxes across countries and over time (Box 2). But countries' level of 'openness' as measured by relative trade volumes as well as their legal origin may also play important roles in determining property tax revenue. It also appears that, as countries develop and grow richer, property tax-to-GDP ratios tend to increase.

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[14] Although a large number of transition economies in recent years have implemented decentralization reforms, with devolution also of political decision making—a key element of which has been strengthening of property taxes, typically with some local autonomy to set tax rates (Bahl, 2009).

[15] The data deficiencies referred to above do not allow empirical estimation of *tax capacity* for property taxes, defined as potential tax collections—or the tax 'frontier'—in individual countries as determined by a variety of structural attributes (see Pessino and Fenochietto, 2010). '*Tax effort*' then measures actual collections relative to estimated tax capacity.

[16] While tax efforts are not necessarily lower in middle-income than in high-income countries, the well established positive relationship between a country's ability to collect taxes and its development level (see Haldenwang and Ivanyna (2010)) would support the hypothesis that tax *capacities* generally are higher in high-income countries. If combined with an assumption that countries—within each income group—with the highest property tax ratio also exhibit the highest tax *effort*, provides the rationale for the simple calculations made here.

[17] Bahl and Martinez-Vazquez (2008) conducts simulation experiments for developing countries based on improved collection and assessment ratios, and also arrives at a significant potential for improved property tax collection.

Box 2. What Determines the Level of Property Tax Revenues?

Based on panel data for 64 countries generally covering the period 1990–2010, two regression models were applied to test the significance of variables that could potentially affect the levels of per capita revenues from recurrent property taxes across countries and over time. A priori, the level of development (or wealth) as measured by GDP per capita, the degree of urbanization, openness of economies as measured by trade, corruption levels, and cultural or legal heritage are examples of such potentially important variables. The results reported here are preliminary.

Between Effects Model. In this exercise we are testing the cross-sectional effects of various variables on recurrent immovable property tax revenues. The main variables of interest are the level of development (or wealth) of the country measured by GDP per capita in US dollars (*GDP PC*), the level of urbanization as measured by the proportion of the population living in urban conglomerations of over 1 million (*P*), the openness of the economy measured as imports plus exports as a share of GDP (*O*), and the country's legal heritage as reflected by a variety of dummy variables.

In order to capture cross-sectional effects (i.e., the average effects over time in each country), a between effects model is applied:

$$\ln(\bar{R})_i = .54\ln(\overline{GDP\,PC})_i + .65\ln(\bar{P})_i + .68\ln(\bar{O})_i + 1.3AS_i - 16.3 + \mu_i$$

Here, *R* represents recurrent immovable property revenue per capita in country i expressed as a function of GDP per capita, urbanization, openness, and a dummy variable (AS) with value 1 if the country is Anglo-Saxon in origin.

All explanatory variables shown are significant in the between effects model with a p-value of below 0.05 (a dummy variable for commonwealth countries turned out to be insignificant). The implication is that the cross-sectional or by-country effect of development, urbanization, openness to trade, and legal heritage is positive and significant with respect to general government recurrent immovable property revenue per capita, in support of a priori expectations.

Fixed Effects Model. The between effects model, however, does not account for variations in any of these variables over time. For this purpose, we apply the fixed effects model which accounts for the over-time effects on the per capita level of recurrent immovable property taxes for each country:

$$ln(R)_{it} = .29ln(GDP\,PC)_{it} + 1.7ln(P)_{it} - 4.6 + \alpha_i + u_{it}$$

Since the legal origin dummy variables do not vary over time, they are dropped from the model. It is worth noting that the coefficient of the openness measure, while positive, is not statistically significant in the fixed effect model, and therefore is not included. The possible implication is that countries which change their policies to institute openness in trade over time do not also experience an increase in immovable property revenues, but countries with generally open trade policies over time experience larger recurrent immovable property revenues overall than countries with a lesser degree of openness. As such, we conclude that countries tending to be more open also tend to rely more on recurrent immovable property tax revenue, but that one policy decision does not (necessarily) follow the other. This concept might be worth exploring further in future research.

Furthermore, we are interested in determining whether or not the supposed effect of development on recurrent immovable property revenue is meaningful. Since increases in recurrent immovable property tax revenue per capita following from increases in GDP per capita may be purely 'descriptive', it is worth exploring whether GDP per capita squared is significant in recurrent immovable property revenue per capita:

$$R_{it} = 1.34e^{-12}(GDP\,PC)_{it} + 1.09e^{-17}(GDP\,PC)^2{}_{it} + 2.3e^{-7} + \alpha_i + u_{it}$$

The coefficient of GDP per capita in US dollars is now statistically insignificant, while the coefficient of GDP per capita in US dollars squared is statistically significant with a p-value of 0.02, suggesting that the effect on immovable property tax revenue of an increase in development is exponential. This model therefore suggests that an improvement in a country's level of development over time (as measured by GDP per capita) will result in an increase in the share of recurrent immovable property tax revenue in percent of GDP.

In summary, the preliminary statistical experiments conducted here suggest that economic development (or wealth) combines with the degree of urbanization in explaining an important part of the variations across countries and over time in property tax revenue per capita; that the degree of openness and legal origin may well constitute important additional explanatory factors; and that as countries develop, the probability is that the property tax-to-GDP ratio gradually increases. Data limitations have not allowed an analysis also of the possible impact of corruption.

III.   THE CASE FOR PROPERTY TAXATION

A.   Efficiency Considerations in Favor of Property Taxation

Considerations of economic efficiency strongly underpin the case for exploiting property taxes to their fullest potential. Their well-known efficiency enhancing properties derive mainly from the immobility of the tax base which, when underpinned by efficient and accurate valuation systems, entail clear benefits in different respects as outlined in this section. Property taxes in the form of recurrent taxes levied on land and buildings, are generally considered to be more efficient than other types of taxes in that their impact on the allocation of resources in the economy is less adverse—by not affecting decisions to supply labor and to invest (including in human capital) and innovate. The immobility argument must be qualified, though, in the sense that only land is truly immobile, while capital invested in structures (or "improvements"), and particularly nonresidential structures, is indeed mobile, and a higher property tax can conceivably drive capital to lower taxing jurisdictions.[18] In particular, if a newly introduced (or an increase in an existing) property tax is fully capitalized in property prices, present property owners would suffer a one-off loss in wealth, while new property owners would not be affected: once introduced (or increased), property taxes do not affect the rate of return and are therefore considered neutral to investment behavior.[19] This quality follows from the fact that the property tax, to the degree it is a tax on accumulated wealth, does not alter future behavior.

International evidence suggests that immovable property taxation may be more benign than other tax instruments with respect to its effect on long-term growth. In recent studies, in part based on a broad review of the literature, OECD (2008 and 2010) establishes a "tax and growth ranking" with recurrent taxes on immovable property (and residential property in particular) being the least distortive tax instrument in terms of reducing long-run GDP per capita, followed by consumption taxes (and other property taxes), personal income taxes, and finally corporate income taxes as the most harmful for growth. Hence, a revenue neutral growth-oriented tax reform would involve shifting part of the revenue base from income taxes to consumption and immovable property.

Property taxes are considered good local taxes but raise intergovernmental issues. In addition to its considerable revenue potential (as discussed above), the property tax is generally

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[18] However, present levels of taxation particularly in developing countries render this distortion less of a concern (Bahl, 2009).

[19] If a property asset yields US$1,000 in untaxed return and the discount rate is 5 percent, its market price in a competitive market will be US$20,000. If a tax of 20 percent is introduced, the (net-of-tax) return will fall to US$800, and the market price to US$16,000 assuming an unchanged discount rate. The (net-of-tax) rate of return will thus remain unchanged at 5 percent for new buyers. This in principle also applies to business properties, although the effect may be more complex if other taxes are affected (for example, if the tax is deductible for CIT purposes).

considered an ideal source for local governments by virtue of being borne mainly by residents with few spillovers. Also, property values to some degree reflect services supplied by local governments, strengthening the argument that it is reasonable for this base to be tapped to finance local activities. It is also considered to be a stable and predictable revenue source (see section C below for a discussion). Furthermore, the immovable nature of its base, which may be particularly appealing at a time when other tax bases become increasingly mobile, renders the property tax particularly useful as a benefit tax at the local level, with rate differentials across jurisdictions providing the "price" signals required to induce improved resource allocation and hence economic efficiency in a multi-level government setting. Allocative efficiency is, though, conditional on a number of supporting assumptions, including some degree of local autonomy over rate-setting on at least one key tax such as the property tax as well as efficient equalization of tax capacities across jurisdictions.[20] Also, through the political accountability that its transparency induces, the property tax may improve the quality of the overall public financial system. In short, the property tax fit very well the criteria for a good local tax (Bahl, 2009).

But the use of property taxes on business raises particular problems and requires attention. Taxing an important factor of production will—in case the benefit tax principle is not strictly adhered to—raise costs disproportionately on businesses that use relatively more property as factor input. This explains to some degree the fact that many countries apply special reliefs to agriculture, through full or partial exemptions, or lower tax rates.

Strengthening of property taxation could also help reduce the dependency of local governments on transfers thereby enhancing economic efficiency through strengthening of local accountability. It could be held, though, that strengthening local finances—for example, through a broadening of property taxation—would not necessarily improve the overall fiscal balance. However, in the majority of intergovernmental fiscal systems, with vertical fiscal imbalances covered through transfers to sub-national governments, a broad-based strengthening of (local) property taxation could be adjusted for through scaling-back of transfers (or of shared taxes), thereby securing an improvement in the overall fiscal balance with a simultaneous—and possibly efficiency enhancing—strengthening of local fiscal autonomy. Conversely, it has been held that large fiscal transfers to local governments have worked as a disincentive for local governments to devote resources to improve revenue-raising from property taxation. Reduced fiscal transfers could help address this disincentive.

Property taxes can promote efficient use of land thereby further stimulating development and growth. Imposing a "tax cost" on land ownership-or use that to some degree may be independent from the actual use of the land (particularly if market-price valuation is applied), property taxes are frequently considered as providing an important incentive for property

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[20] A 'pure' benefit tax would in principle prevent tax competition among local governments. However, to avoid potentially harmful tax competition among local governments, particularly as the tax applies to business property, a number of countries set often narrow bands for allowed property tax rates.

owners to secure a more efficient use of land and buildings.[21] [22] This is an important consideration in many countries, and lies behind the use of property taxes to promote development not least in the agricultural sector in many developing countries (the agricultural land tax in Namibia being one clear example). If better land use is the driving motive, it could be held that a pure site (land) tax on land value would offer the best tax design since—being independent from actual land use—this would maximize the incentive to apply the land to its optimal use, whereas a tax applied also to expensive structures would attract a higher tax.

Property taxes could conceivably reduce efficiency costs generated by other parts of the tax system. In many developed countries, owner-occupied housing receives a favorable tax treatment compared to other forms of investment. This tax bias is generated through exemptions for imputed rent and capital gains combined with (full or partial) deductibility for interest costs. This may—in addition to adding to mortgage debt levels and housing prices (and perhaps their volatility)—distort capital flows and lead to over-investment in housing (see OECD (2008), and IMF (2009)). In these circumstances, while not being first-best, raising taxes on immovable property could conceivably reduce the tax bias in favor of housing and improve efficiency and growth. This could induce an outflow of capital from residential property towards more profitable ones (OECD, 2010).

In a similar vein, increased property taxes may help reduce reliance on distorting property *transfer* taxes.[23] [24] Capital transfer taxes, which as discussed above (Table 1) are popular in many countries as a buoyant tax handle, may reduce turnover of property and hence distort the allocation of this important component of capital. Furthermore, a key tenet of the optimal tax literature is that taxes of this nature impose efficiency costs through resource misallocations to the extent their incidence rests on business inputs. For these reasons, some countries have considered replacing transfer taxes—totally or partially—with recurrent immovable property taxes (such as, for example, Ireland and Portugal), and FAD tax policy advice has supported a move away from property transaction taxes.

Property taxes have also been considered as potentially effective in countering speculative housing price booms and house price volatility. Examples of countries using property taxation (including transaction taxes) in this respect include China and Singapore (Box 1). It

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[21] See for example OECD (2008).

[22] Some countries apply the tax to counter 'speculation' in land that lies idle or to induce land development.

[23] While the use of capital transfer taxes raises broader tax policy issues, such as whether a capital gains tax is in place, the issue of better balancing transfer taxes with recurrent taxes on property is pertinent in many countries, and therefore mentioned here as an important policy objective.

[24] The additional problems for valuation of property that may be induced by the use of property transfer taxes are discussed in section D below.

remains, however, an open empirical question whether property taxes represent an efficient tool in this regard. To the extent that property taxes are predominantly capitalized in housing prices (driven by the net present value of future taxes), property taxes may at best have a one-off effect on price levels (and not on sustained house price inflation), and counter-cyclical use of property taxes to reduce house price volatility may not be efficient (and further complicated by its use mainly as a local government revenue source).[25] It also appears that factors other than tax were dominant in driving the pre-crisis house price bubble and subsequent bust, although tax biases may have accentuated the crisis (Keen et al, 2010); and non-tax policy instruments such as, for example, limits on loan-to-value and debt-to-income ratios may in some cases be more effective than tax measures.[26]

Property taxation in small and highly open economies, particularly exposed to intensive tax competition, could be considered a means of rendering tax systems more "resilient" to external shocks. This would happen by exploiting the advantages of drawing on an immobile tax base in a period of globalization.[27]

Finally, but not exclusively related to economic efficiency, a particular advantage of higher reliance on taxes on immovable property is the absence of any need to improve international tax coordination—as a prerequisite for their efficient use.

B. Equity Considerations: Are Property Taxes Fair?

Perhaps somewhat surprisingly for a tax as ancient as the property tax, its implications for fairness is a long-standing and contentious issue—and will probably remain so.[28] The equity case for broader use of property taxes rests on the notion that they are generally assumed to be progressive—an assumption that is still not underpinned by a clear consensus.[29] There appears, though, to be some support for the so-called "new view"—now about 40 years old—

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[25] It has been argued that property *transfer* taxes could help dampen price volatility, but the effect is ambiguous and could be counterproductive when lower transaction volumes lead to higher volatility.

[26] The use of tax and other policy measures in controlling house price boom-busts are discussed in an IMF Working Paper (WP/11/91) which provides insights on the pros and cons as well as implementation challenges of various policy tools—tax and non-tax—that can be used to contain the damage to the financial system and the economy from real estate boom-bust episodes.

[27] There is, for example, renewed interest in strengthening property taxation in a number of countries in the Caribbean region as well as in the Baltic countries.

[28] A brief account of historical property tax events in selected countries, including the UK and the US, is provided in Yongman (2008) who refers to the property tax revolts in the UK in 1990 (introduction, and subsequent repeal, of the poll tax) and in the US in 1978 (California's Proposition 13), when unpopular value-based taxes were replaced with politically more palatable alternatives.

[29] The incidence in developing and transition economies may be even less clear than in developed countries due to less developed capital markets and often ill-defined ownership rights.

that property taxes are borne mainly by capital and landowners. Studies based on this view find generally that property taxes are progressive, because land and capital are owned predominantly by higher-income individuals.[30] The different views on the issue are summarized in Box 3.

Box 3. Views on the Incidence of Property Taxation

According to *the "old" (or traditional) view*, the property tax combines a tax on highly mobile capital and immobile land, with the tax on capital being shifted fully to renters, consumers, and labor, while the tax on land is borne by landowners. Incidence studies based on this view, which puts the emphasis on the shifting of the tax, generally find that the property tax is regressive.

In contrast, *the "new" view* (attributed to Mieszkowski, 1972) assumes that capital is in fixed supply, but perfectly mobile across sectors and geography. The tax on capital is seen as a combination of a basic (or average) tax rate applied to all capital (which capital owners cannot escape since it is levied on a fixed supply of capital) plus a local differential that varies across jurisdictions—thus working as an incentive for capital to reallocate among jurisdictions until net after-tax rates of return are equalized. Incidence studies adopting this view find that the property tax is progressive (or at least not as regressive as under the old view) because land and capital are owned by higher-income individuals.

The "benefit" view provides an alternative, but not necessarily mutually exclusive, view of property tax incidence, and argues that the property tax is a benefit tax equal to the benefits received from the public services funded by the tax. The property tax thus acts as a price for local public goods and individuals will chose the locations that offer services best in line with their preferences (the Tiebout effect). By being in essence a user charge for local public services, there is an inherent fairness to the property tax based on the benefit principle. It has also been argued that property values capitalize the benefits provided, and hence that a tax on values represent a fair burden-sharing arrangement. By seeing the tax as a price for services received, the benefit view has the important implication that immovable property taxes are *efficient taxes* that do not interfere with savings, investment, and labor supply decisions of individuals and companies.

It follows from the discussion that the relevance of each of these views may differ across countries depending *inter alia* on the degree to which property taxes actually reflect benefits received or are perceived to do so.

Very limited work has been done to formally model property tax incidence under conditions compatible with those in developing and transition countries. It has been argued that key assumptions of the model underlying the new view such as full capital mobility and a fixed supply of land typically are not met in these countries, and that the predictions of the new

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[30] The different incidence views are discussed in Sennoga, Sjoquist, and Wallace (2008) who also address the limitations to the new view and the benefit view when applied to developing and transition countries.

view therefore do not hold there. Based on simulations with a CGE model tailored to more accurately represent the conditions in developing and transitional countries, Sennoga, Sjoquist, and Wallace (2008) find that the burden of property taxes imposed on capital and land is borne by the owners of capital and land and is not significantly influenced by the assumptions regarding the mobility of capital. Hence, the property tax is progressive with the burden borne predominantly by middle-and high-income earners. Since wealth and high-income individuals can be hard to tax in these countries, a property tax—appropriately administered—could offer the means of addressing vertical equity concerns in these countries.

Adoption of a specific incidence view is needed to interpret distributional data. Data on the distribution of the property tax burden are rare, but Table 3 provides an example for Denmark which demonstrates some of the problems involved. The table provides a decile-distribution of taxpayers with per capita averages of gross income, disposable income, and property taxes within deciles—as well as share of ownership and effective tax rates. The data reflects actual tax liabilities from tax returns, i.e., amounts to be paid by property owners within each decile. But the legal obligation to pay the tax does not necessarily provide an accurate reflection of its final, effective incidence, in the same manner as the obligation on traders to pay VAT is not an accurate reflection of who ultimately carry the burden of the VAT. When observed through the prism of the "new" view, the property tax in Denmark appears regressive over the first two deciles—presumably because the populations in these deciles typically are quite heterogeneous[31]—while the tax becomes progressive from the third decile and up. This in part is due to the fact that property ownership, as shown in the table, increases strongly over the deciles; and by applying the "new" view it is assumed that renters are not carrying any of the property tax-burden which may not be an accurate assumption.

Finally, it is frequently argued that the use of market values maximizes fairness of the property tax. This is particularly so to the extent that market values broadly reflect the capitalized benefits provided by local services that are financed by the tax. In contrast, alternative approaches such as area-based taxation (for example, specific square meter taxes) unrelated to actual property values (or related only imperfectly so) typically entail variations in effective tax rates across properties which may violate equity considerations.

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[31] These deciles would include, for example, pensioners with low income but valuable property and newly self-employed with low income. Some countries address these particular problems by allowing property tax deferrals until a change in property ownership.

Table 3. Denmark: Distribution of Property Taxes as Share of Income

	Income Class		Gross income per taxpayer	Average Disposable Income	Income tax	Property Taxes	Share of Ownership	Effective Tax Rate (As share of gross income)	Effective Tax Rate (As share of disposable income)
1	0	113428	89,565	69,048	20,517	1,626.30	24.1	1.82%	2.36%
2	113429	138115	164,905	126,443	38,462	1,442.20	35.6	0.87%	1.14%
3	138115	158776	197,779	148,168	49,611	1,297.30	35.6	0.66%	0.88%
4	158777	180075	232,593	169,020	63,572	1,653.00	50.5	0.71%	0.98%
5	180076	201048	268,323	190,154	78,169	2,096.50	63.6	0.78%	1.10%
6	201051	223192	303,807	211,524	92,283	2,481.00	72.2	0.82%	1.17%
7	223192	248191	342,851	234,962	107,889	3,012.50	78.6	0.88%	1.28%
8	248191	280693	390,598	263,325	127,273	3,600.30	83.1	0.92%	1.37%
9	280694	332653	460,238	303,837	156,401	4,619.80	88.1	1.00%	1.52%
10	332655	+	740,659	457,278	283,380	8,206.90	93	1.11%	1.79%
All			319,132	217,376	101,756	3,003.60	62.5	0.94%	1.38%

Source: Ministry for Economic Affairs and the Interior, Denmark.

C. The Cyclical Resilience of Property Tax Revenues

While the property tax may be an efficient and fair tax, high cyclical volatility could render it less appropriate as a local tax. The deep 2008–10 recession and the high-growth period that preceded it provide a unique background for studies of the cyclical sensitivity of the property tax—not least owing to the crucial role of the housing market in that recession. Inspection of Figure 1 for OECD countries—with basically a flat revenue ratio during the boom years leading into the recession—seems at the face of it to indicate a low cyclical sensitivity of property taxation. This low buoyancy of immovable property during the period of very rapid asset price appreciation from the early-to mid 2000s seems at first surprising.

But recent empirical research for the US has importantly cast more light on the issue of the cyclical volatility of property taxes.[32] Like in many other countries, state and local government revenues in the US dropped steeply following the most severe housing market contraction since the Great Depression: for example, state and local tax revenues fell by almost 5.5 percent in 2009—making this only the second year (with 2002) since the Great Depression that state and local government tax revenues had fallen in nominal terms. However, the fall was driven by sharp declines in receipts from the personal income tax and the sales tax (of 17 percent and 7.5percent, respectively) while, in sharp contrast, property tax revenues held up remarkably well by growing more than 5 percent in both 2008 and 2009 thereby serving as a significant buffer for the decline in other tax sources (Figure 5), although property tax revenue stopped growing in subsequent years. The figure also illustrates that

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[32] See in particular Lutz, Molloy, and Shan (2010), and Lutz (2008).

property taxes generally tend to be less volatile than other tax sources—long seen as one of the primary virtues of the property tax.[33]

Figure 5. State and Local Tax Revenues, United States, 1990–2009
(Percent change)
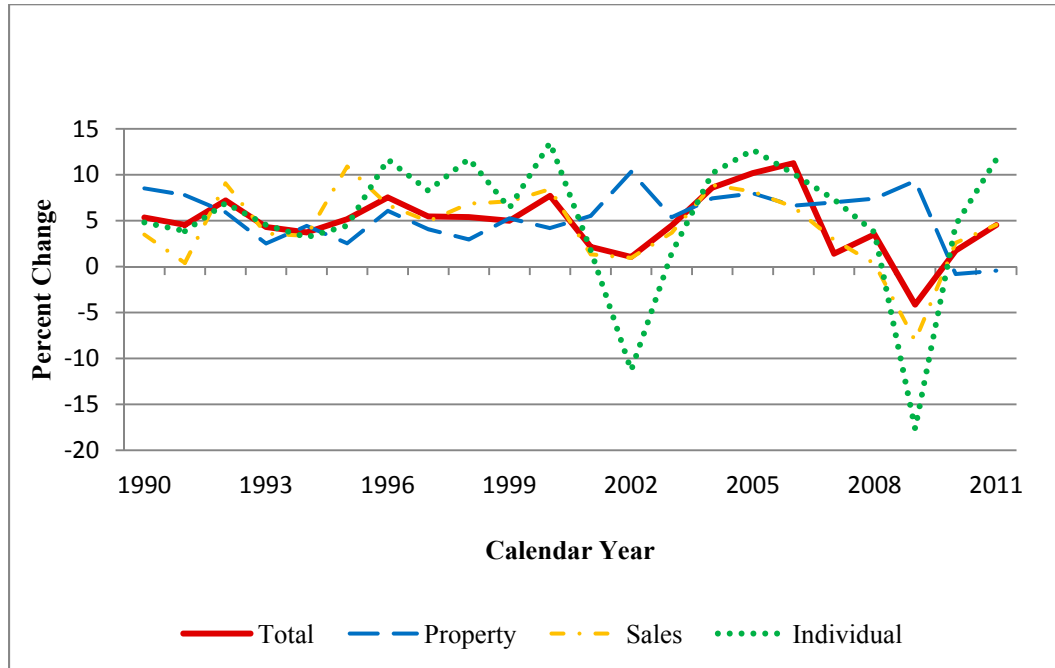
Source: Census Bureau, *Quarterly Summary of State and Local Tax Revenue*.

The resilience of property tax revenue is, according to recent research, in part attributable to two factors. Using both time-series data and micro-level panel data from individual governments, Lutz (2008) estimates that the elasticity of property tax revenue with respect to home prices equals 0.4, indicating that policy makers tend to offset as much as 60 percent of house price changes by moving the effective tax rate in the opposite direction of the house price change (Figure 6). In other words, during the house price boom, local governments tended to spend part of the 'rent' on (popular) rate reductions, while during the recession budgetary pressures forced them to raise property tax rates (possibly reflecting the relative ease with which base and rates can be adjusted as compared to other taxes). Furthermore, house price changes have an effect on property taxes only after a lag of about three years, reflecting three basic features of the tax: (1) assessments take place in a backward-looking manner, as the current year's taxes are based on the assessed property value in the previous

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[33] This is particularly important for local governments, which have lesser ability to absorb revenue shocks than do central governments with more revenue sources at their disposal. But it also implies that the property tax may be less powerful as an automatic stabilizer than other taxes illustrated here.

year; (2) assessed values often lag market values, in some cases by design or legal mandate and, in others, due to "poor" administration (which may be intentional, particularly in jurisdictions which elect their assessor); and (3) most states have a cap or otherwise a limit on increases in revenues or taxable assessments (or even in rates). This would, during periods of rapid house price growth, prevent revenues from growing at the same pace as market values, and could create a 'stock' of untaxed appreciation.

Figure 6. Property Tax Revenues and House Values, United States, 1989–2009
(Percent Change)
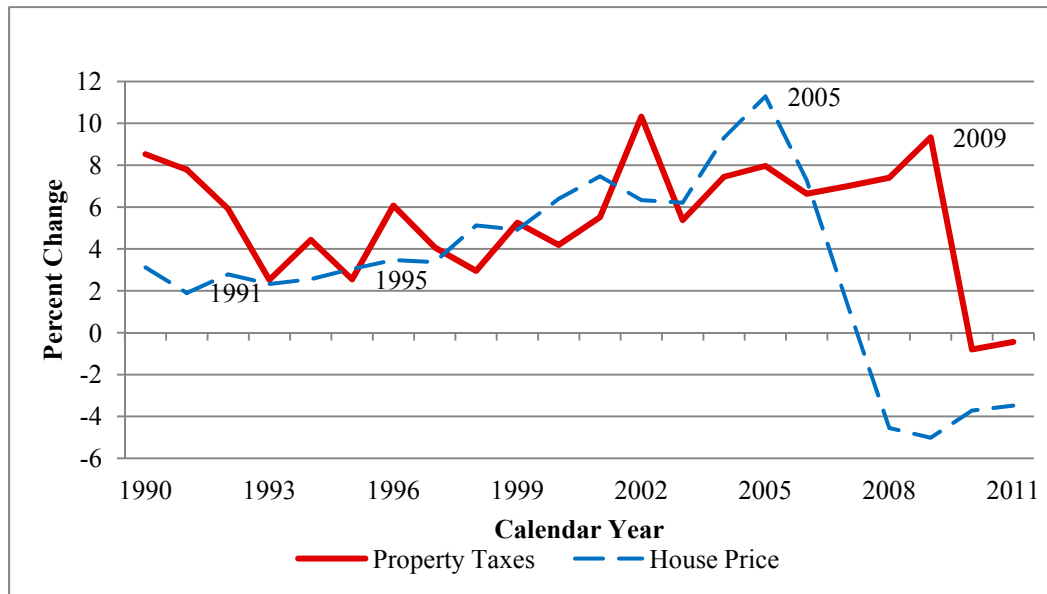
Source: Census Bureau, *Quarterly Summary of State and Local Tax Revenue.*

IV. ISSUES OF POLICY DESIGN AND IMPLEMENTATION

Several policy aspects and administrative challenges explain the dismal revenue productivity of immovable property taxes in many countries. There are basically two policy variables and three administrative variables that determine the yield of any property tax as reflected in the basic *revenue equation* which also provides a good structure for the ensuing discussion:

$$R = B \times t \times C \times V \times E$$

The equation expresses collected revenue (R) as the product of the legally defined tax base at actual prices (B), the average tax rate (t), the ratio of properties actually covered in the tax roll relative to all properties as legally defined (C), the ratio of assessed to actual value of property in the roll (V), and the level of enforcement measured as actual collections as a share of liabilities or invoices (E)—with C, V, and E being ratios that in an ideal world

would take on the value of one but very rarely (if ever) do so in practice. These variables are discussed in turn in what follows.

Policy and administrative issues

There are numerous ways of defining and measuring the property tax base (B). Approaches can be classified broadly along three basic dimensions. The first is the different methods that can be applied when *assigning value* to property, which can be grouped into market price based methods, encompassing valuation based on rental values or capital (market) values, and area based methods (see Box 4 for brief definitions; the practical issues are discussed under valuation (V) below). A second key dimension relates to the *property components* included in the base (land only, buildings (or other improvements) only, or combinations of the two); and a final key distinction relates to the *use of the property*, since different uses can be treated differently for tax purposes, such as in particular residential versus business property, or urban versus agricultural land.[34] The specific definition of the base adopted depends in part on the objective of the tax (such as financing local governments, securing better use of land, or financing urban development), and in part on the depth of local property markets and sophistication of administration in individual countries.

While ideally all property should be subject to property taxation, a particularly urgent issue in many developing countries is the need to better capture the strongly growing base of urban property to finance infrastructure. According to UN projections, Africa's urban population will more than double between 2000 and 2030, creating an urgent need for local tax structures that can grow in tandem with the need for urban infrastructure.[35] Property taxes are considered a natural candidate since they are progressive, administratively feasible, and scale-up automatically with urban expansion. Similarly, global demographic forecasts indicate that the world's urban population will double from 3 billion in 2000 to 6 billion in 2050, with nearly all growth occurring in developing countries. Most affected cities will see their populations grow several-fold over the next few decades, and will need to plan for future expansion and identify financing for needed arterial road networks and other basic infrastructure. One proposed strategy that may work well in developing countries with some large (and growing) cities but still heavily agrarian is to introduce a combination of capital value systems for urban places and an area-base system for more rural areas (Bahl, 2009, p. 12).

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[34] Tax on agricultural land may in some cases be a substitute for agricultural income tax.

[35] African Economic Outlook 2010, AfDB/OECD (2010).

Box 4. Property Valuation Systems[36]

Rental value systems are used in many countries (particularly former British colonies) and define the tax base as the rent that can reasonably be expected in a fair market transaction. It is used in countries as diverse as India, Nigeria, Malaysia, and Trinidad. While simple in concept, there are also serious practical challenges: a scarcity of data on actual rent payments make base assessment difficult; some properties are rarely in the rental market (owner-occupied housing, industrial property, vacant land); and some countries operate rent control systems. Estimates of the base may rely on rent surveys for different areas, often combined with expert judgment; estimated capital values of the property (from sales data or based on construction costs), converted to rental equivalent; or estimated (net) profit of the property. Rental value typically reflect the present use of the property, and may, therefore, not reflect best alternative use of the property—with the lack of incentives that entails.

Capital value systems define the base as the market value of the property (land and improvements or structures) in an open market. This is the system used in most OECD and Latin American countries, and there seems to be a shift towards this method. Many countries use a separate valuation for land and buildings (Botswana, some Brazilian cities), while others base the assessment on the total value of the property (Cyprus, South Africa). While also conceptually straightforward, this system avoids some of the problems of the rental value system (for example, the value of vacant land, reflecting the value in best alternative use), and it could be held to be the most equitable method—particularly to the extent that property value reflects the benefits of public investment. Key problems include again scarcity of data reflecting market transactions and/or under-declaration of such prices (for example, due to high property transfer taxes as discussed below). Valuations may be provided by expert assessors, who are often in short supply, and administrative costs can be high.

Land (or site) value systems tax the market value of land alone, and is used in a variety of countries (Australia, New Zealand, Denmark, Estonia, Jamaica, and Kenya). Apart from raising revenue, it could be argued that the land value tax provides the strongest incentive for the most efficient use of land, although the nominal tax rate must be higher to yield a given amount of revenue due to the smaller base. It has been held that this tax also implies lower administrative costs than a capital value tax. The system suffers from the same type of administrative shortcomings as the capital value tax, in addition to the complexities of assessing land only in highly urbanized areas.

Area-based systems comprise the simplest methods by taxing each parcel at a *specific rate* per area unit of land and per area unit of structures. It is used in many Central and Eastern European countries and a number of developing countries (such as, in different forms, in Vietnam and Nigeria). It is a simple, transparent, and fairly easily administered system, which allows imposition even in countries or localities with no—or only an embryonic—property market. The system ranges from a 'pure' form based only on physical area, to hybrid forms that aim to better proxy capital value by using also other inputs such as zoning and indicators of quality (as used in a variety of forms in, for example, Serbia, Poland, Chile, and Indonesia), which are more complicated and often involves an important measure of judgment. Other disadvantages include that it is generally not considered a fair tax, owing to potentially sharp differences in effective tax rates, and its buoyancy may be limited since it may not trace well market price developments.

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[36] A good discussion of valuation methods is provided in Bahl (2009).

The diversity across regions in the methods used for measurement of the property tax base is evident from Table 4. The table illustrates the relatively widespread use of area-based approaches among African, Asian, and transition countries.

Table 4. Alternative Property Tax Bases by Region

Region	Number of Countries	Land Value	Capital Improved Value	Land and Improvements	Improvement Only	Annual Rental Value	Area	Flat Rate
Africa	25	1	8	3	4	7	11	6
Caribbean	13	4	4	2	0	8	5	0
Asia	24	2	6	2	0	11	11	0
Oceania	7	6	2	0	0	4	0	0
Western Europe	13	0	9	0	0	6	0	0
Eastern Europe	20	1	6	0	0	0	15	0
Central and South America	16	2	14	1	0	1	0	0
North America	3	0	3	0	0	0	0	0
Total	121	16	52	8	4	37	42	6

Source: Michael Bell (2011).

Whichever method is adopted to measure it, the property tax base is often porous, corroded by multiple exemptions and reliefs. The list of exemptions or special treatments is often long and frequently very costly in terms of revenue forgone. Typical exemptions include government property (including roads, railroads, and pipelines, and central government property in local jurisdictions) as well as merit uses such as schools and religious establishments. Many countries also use the property tax for purposes of broader social policies, and—in addition to the use of basic property tax thresholds to protect the poor— a particularly costly (and regressive) exemption in that regard is that provided for owner occupied housing in many countries.[37] Property tax incentives for businesses have also escalated in some countries.[38] Some countries provide special reliefs depending on family structure: in Serbia, for example, owner-occupiers receive a 40 percent tax reduction, increased by 10 percent for each member of the household up to a ceiling of 70 percent— potentially rendering the tax regressive contrary to intentions. In Uganda, in addition to the standard exemptions for government-owned property as well as property used for religious

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[37] Bahl (2009), refers (p. 5), for example, to a study of Punjab province in Pakistan where bringing owner-occupied housing fully into the tax net would triple the level of provincial property tax revenues.

[38] Kenyon et al (2012) provides a good account of the use of property tax incentives for business in the US, with a critical assessment of their effectiveness in promoting economic development.

purposes, civil servants (police, military), unemployed persons, peasants, and people living in poverty unable to earn the minimum income are also exempt.[39] And many countries provide tax preferences to pensioners (including tax deferrals as previously mentioned). Agriculture is another example of a segment that generally receives a very favorable property tax treatment, either by outright exemption (partly or fully, such as in Nicaragua, Guinea, and Tunisia[40]) or by special treatment leading to a negligible liability (such as in Serbia). Perhaps an exception as regards taxation of agricultural land is Namibia where the newly introduced central government land tax is designed mainly to encourage better land use. And few countries, if any, undertake systematic tax expenditure budgeting pertaining to the property tax, to ascertain the true budgetary costs of the tax reliefs offered. The bottom line is that taxes frequently are paid on a base that bears little resemblance to the true level of property values, and yields could be substantially enhanced by scaling-back excessive exemptions and reliefs.[41]

Similarly, there are different ways of structuring the tax rate (t). If capital value is the base, a flat or progressive rate is normally applied (although as noted above progressivity in some countries is secured through a basic property deduction). A flat rate is typically applied if the base is rental value, while under area-based taxes the norm is a specific flat rate with given amount per unit of area (square meter or ha, of either land and/or buildings, such as in Vietnam). Tax rate levels and structures (including for different types of properties) also vary substantially across countries (and within countries across jurisdictions). Namibia applies a central government tax on agricultural land at a basic rate of 0.75 percent while urban municipalities apply very modest rates to local property.[42] Serbia uses a progressive rate structure set by local governments starting at 0.4 percent up to a maximum of 3 percent, while Cambodia is considering a uniform 0.1 percent tax. In Kyrgyzstan, a dual rate system (0.35 and 1.0 percent) is applied depending on type of property. The authority to set rates is in many countries assigned to local governments, often within a fairly narrow band or below a ceiling set by law. In Uganda, for example, rates are determined by municipalities but with a maximum of 2 percent of rateable value prescribed by law. In other countries the rate is set by a higher level government.

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[39] ECORYS, "Taxation in Africa", Rotterdam, May 2010.

[40] Bird and Slack (2008).

[41] One study estimates the revenue costs of exempting government property as equivalent to about 12 percent of collections in India's 36 largest cities. Many countries, such as Kenya and Canada, charge a payment in lieu for property tax on government property and non-profit uses of property (Bahl, 2009, p. 15).

[42] In the case of Windhoek, for example, the rates are 0.0734 percent of the site value, and 0.0379 percent of the house (improvement) value.

A simple, transparent, and hence fairly uniform rate structure has critical advantages. It minimizes complexity in administration and the risk of tax avoidance or evasion through misclassification of properties. It also minimizes the risk of misallocation of capital by taxing different types of capital at different tax rates. The use of reduced tax rates for residential properties may be politically convenient, but it provides an incentive that could lead to overinvestment in this type of property, and it may reduce the accountability of elected local officials[43]. It obviously also will have a detrimental impact on the revenue yield. If the main reason for low rates is to protect the poor, a better solution would be to use a basic threshold for the taxation of residential property. In practice, many countries tend to tax business property at higher rates (sometimes at much higher rates) than residential and agricultural property.

Any viable property tax administration must ensure that close to all land and improvements are included in the tax register with an efficient method in place to keep it up to date (C). A significant administrative problem particularly in developing and transition economies is the low coverage of parcels or properties in the tax register. In Kenyan municipalities, for example, coverage ranges from 30–70 percent, and in Chile a large share of new construction has not been included (Bahl, 2009, p. 17). In Serbia, according to some estimates, between 40 and 50 percent of real estate were previously not in the property register, although the situation seemed to improve quite significantly following the devolution of the administration of the property tax to local governments in 2007.[44] Possible reasons for these administrative weaknesses in Serbia include lack of effective office-and field control, lack of enforcement regarding sanctions for not filing, and possibly also the fact that a large number of properties fall below the threshold for the property tax. In Latvia, on the other hand, according to one measure, more than 98 percent of properties are included in the tax register although this measure could be somewhat distorted because of the privatization process.[45] Apart from the obvious direct revenue consequences, a low coverage may have a significant indirect impact by adversely affecting the perception of fairness and thereby property tax compliance.

Valuation is a major administrative problem particularly, but not only, in many developing countries and transition economies (V). There are a number of reasons for this: a lack of

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[43] And particularly in developing countries, where the place of residence is often the same as the place of business, it can administratively be difficult to levy different rates.

[44] USAID (2010), p. 114.

[45] It is a general experience that comprehensive and accurate registration of property and thereby close to complete coverage of the property tax base is a cornerstone of successful property tax reform, and is in turn crucially dependent on the sharing of data between key players (cadastral agency, property registry, courts, tax authorities, geodetic institutes, etc.).

educated valuators,[46] a generally weak administration, and a "thin" or underdeveloped property tax market that generates insufficient transactions to provide a continuous flow of input to the valuation system (often combined with lack of reliable data on the sales values of properties that are exchanged).

A key issue in this regard is the relative merits of decentralized versus central valuation systems:[47] While there appears to be broad consensus that the legal framework for property taxation should be uniform and centrally determined, there are arguments for and against making the actual valuation a central or local task. A frequent argument emphasizes the usefulness of local knowledge regarding the nature of property markets and sales conditions, as well as the need to provide a strong incentive for local administrations to keep coverage and values up to date. In many countries (such as Vietnam), local councils are charged with keeping the valuation rolls, while in several Latin American countries where the property tax is a local revenue source (e.g., Guatemala and Mexico) there has been a gradual shift of these administrative responsibilities to local governments, and in Brazil responsibility for property tax administration rests solely with local governments (Bahl, 2009, p. 17). Against this, a lack of qualified local assessors and the fact that local valuation officers are often subject to political pressures to delay or minimize updates would favor a centralized valuation system based on a critical mass of technical expertise (such as those applied for example, in Denmark, Lithuania, Latvia, and Uruguay). In many countries there is a shared responsibility between local and central governments, and in others a payment system for valuation services across levels of government is considered. While there is no 'correct' way of organizing the valuation function it would seem that the case for local responsibility is the strongest where the property tax is an important local revenue source.

These valuation problems frequently lead to value assessments for tax purposes that are much lower than market values.[48] Low assessment ratios (i.e., assessed tax base relative to actual market value) seems to be typical under any of the standard valuation methods presented in Box 4. Bahl (2009) reports dramatic under-assessments in many developing countries, with assessment ratios in the range of 25 to 50 percent in selected Indian cities (rental value), and a wider range of 10 to 90 percent in selected Latin American cities (market value). Serbia provides another striking example[49]: for taxpayers keeping business

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[46] Often because of lack of appropriate training programs or a significant gap in compensation between the public and private sectors.

[47] Or more generally, the system applied for the upkeep of the cadastre, including coverage, titling, and valuation.

[48] Which in some countries is adjusted for through increases in tax rates—a second best solution in view of the continuous changes in relative property values.

[49] USAID (2010), pp. 107–108.

books, the tax base is the book value of the property which generally is well below market values; an analysis conducted in one municipality shows that for 83 percent of the properties, the book value is less than 50 percent of the market value (with 31 percent of properties lower than 10 percent of market values). Valuation problems are, however, not limited only to developing and transition countries, but pose significant challenges also in developed countries, such as for example, in the case of Germany,[50] although the valuation mechanisms in place in OECD countries generally are fairly advanced. Once a valuation system is in place, it is essential to update on a regular basis and keep doing so: if valuation updates fall behind, it may be hard politically to "catch up" as demonstrated in the case of Germany.

The use of property *transfer* taxes may importantly exacerbate other valuation problems, with adverse implications that go beyond their efficiency costs (discussed above). Transfer taxes, often in the form of stamp duties, are popular in many (including developing) countries, for a variety of reasons.[51] But significant transactions taxes on property may lead to serious tax evasion by providing a strong incentive for collusion between buyers and sellers to undervalue properties when they are sold, thereby also automatically undermining property transactions as a key source of information on up-to-date market values for the cadastre; and by reducing the overall volume of property transactions, they reinforce valuation problems by 'thinning' the market.[52] High transaction costs may also adversely affect economic performance by discouraging labor mobility. Significant transaction taxes are found in a number of countries, such as the 15 percent real estate transaction taxes in Senegal and Jamaica (recently reduced), the 15 percent Droits d'Enregistrement in the Central African Republic,[53] and the transfer duty rates of 8 percent for individuals with high value property and 12 percent for companies in Namibia. A stamp duty has long been in place in the UK, now with a maximum rate of 7 percent. The drawbacks referred to above explain why some countries have considered reducing transaction taxes as an integral component of property tax reform. Transfer taxes could, alternatively, be replaced by capital gains taxes on property whose inherent self-checking mechanism (with opposite interests for

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[50] In a June 2010 judgment, Germany's Federal Fiscal Court ruled that the continued failure to conduct a general revaluation of real property violates the equality principle of the German constitution, and that a reassessment of property values is necessary. The problem is that the German property valuation system has relied on assessments dating back to 1964 in the case of the states in the former West Germany and to 1935 in the case of the states in the former East Germany. It is up to the German municipalities to implement the decision (Tax Notes International, 2010, p.652).

[51] It is an easy tax handle, with high compliance due to property buyers' desire to acquire proper legal ownership documents, revenue collections can be very high with low administrative costs, in part because of much fewer taxpayers than under a recurrent property tax, and the tax may be progressive.

[52] Another means of avoiding a property transaction tax is to register property in closed corporations such that, in the case of transfers, the object of the sale may not be the property itself, but the shares in the company (or interest in a trust) that holds the property. This would also deprive the cadastre of important market price information.

[53] A tax that is expected, though, to be significantly reduced.

buyers and sellers in declaring high sales values) could reduce or eliminate the incentive for under-declaration.

Enforcement of the property tax is frequently very weak resulting in modest collection ratios (E). Various studies have reported dismal collection ratios (actual collections as a percent of liability or invoices) in a multitude of countries (for example, 50 percent in the Philippines, 60 percent in Kenya, 70 percent in Croatia, and 15 percent in Macedonia), while in Latin America the collection ratios at 75 percent or above generally are higher (Bahl, 2009, p.19). A low collection ratio may in some cases follow from the tax being collected by local authorities that may have a political interest in not pursuing effective collections, but also from expected penalties being too low. Furthermore, in cases where transfers from the center cover a large portion of local expenditures, these may create an adverse incentive effect for efficient local tax enforcement.[54]

These administrative complexities (C, V, and E) must be addressed in any property tax reform if the immovable property tax is to produce a higher yield.[55] One underlying problem is that, in contrast to income taxes and the VAT, the property tax cannot—or only with significant difficulty—be self-assessed, with property owners placing an assessed value on their own property (the city of Bogota providing an interesting exception, see Box 5).[56] This entails relative high administrative (as opposed to compliance) costs because of demanding information and record keeping requirements, and the need for an efficient valuation system. As noted, a particular problem in virtually all developing countries is the shortage of qualified property assessors or valuators.

The administrative complexities, if not properly addressed, may also reinforce each other resulting in a high cost-to-revenue ratio of property taxes. It is readily evident from the revenue equation (1) above, that a combination of low coverage, valuation, and enforcement ratios will exacerbate each other thus reinforcing their adverse impact on the yield.[57] Also, upgrading the administrative infrastructure necessary for an effective property tax often requires an up-front investment (establishing registration procedures, a cadastre, introduction of IT systems, and training programs). The recent wave of reform initiatives (see Box 1)

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[54] Remedial measures—proposed or adopted—to strengthen enforcement include moving collection points to banks, rewarding improved enforcement with higher transfers, and linking property tax payments with the provision of utility services.

[55] See Bahl and Martinez-Vasquez (2008) for a good discussion.

[56] Although elements of self-assessment (or 'self-identification') are also found in Hungary, Thailand, and Philippines (Bird and Slack, 2005).

[57] A simple example may clarify this point: if both coverage and valuation ratios are at about 0.7 in a given country—not unrealistic assumptions in respect of many developing countries—the total yield of the property tax could potentially double through an aggressive program to widen coverage and update values, and— importantly—is *within the existing legal and regulatory framework*.

seem, however, to indicate that this is not a decisive obstacle to reform. Unfortunately, information on the cost of administering property taxes is generally extremely scarce.[58]

Box 5. The Self-Assessment Approach in Bogota City

Until the property tax reform of 1993, the property tax in Bogota city was levied only on the less than 50 percent of total property owners who were included in the cadastral base. Furthermore, the cadastral valuations were outdated with property values around 20–30 percent of their market values. With the 1993 reform, the city (as the only municipality) introduced a self-assessment scheme, forcing taxpayers to declare the properties they owned and their values, substantially improving the extent of information available on the city's real estate properties. The new statute established that declared land values could not be less than the highest of the following three benchmarks: (1) 50 percent of the commercial value; (2) the cadastral valuation; and (3) the previous year's self-assessment, indexed with inflation. The 50 percent provision was repealed in 1994 on the grounds that it was impossible to assign a market value to every property in the city unless a transaction had occurred. To further enhance compliance, the self-assessed values were used as the basis for calculating capital gains on property under the income tax (applying, however, to only a minority of property owners). The existence of an autonomous cadastral organization in the city was considered instrumental in implementing the greater autonomy granted over the property tax base.

The reform led to the inclusion of a large number of formerly informal properties in the cadastral base, and resulted in a doubling of tax filings in one year. It also brought taxable values closer to market values with the combined result that property tax revenues in real terms grew by 77 percent in 1994. The new scheme also resulted in a sustained increase in the number of properties declaring the tax throughout the following decade.

In the late 1990s, however, property values dropped significantly as a result of the economic recession, and in many cases the minimum legal value determined by self-assessment became higher than the market value. The national government responded with legislation in 2000 leading to the elimination of the self-assessment provision and the introduction of a price index (the Urban and Rural Property Valuation Index (IVIUR)), intended to update cadastral values that are not adjusted by the Cadastre Office in field activities, and is calculated as the average increase in property prices estimated by the same office. This caused a further increase in the number of taxpayers declaring the cadastral value, from 72 percent in 2000 to 85 percent in 2002.

Subsequent valuation improvements based on substantially increasing the coverage of cadastral updating processes, led to a historical record in the number of updated properties, and produced a ratio between the cadastral valuation and commercial value of around 81 per cent in 2004.

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[58] Estimates for Latvia indicates that administrative costs at the municipal level exceed 10 percent of revenues in about half of the local governments, and reach up to 36 percent (in addition to the costs incurred at the central government agency involved). However, these seemingly high ratios are affected, not only by 'high' administrative costs, but also by very low tax rates, and hence may not provide a generally applicable cost estimate.

While administrative obstacles may appear daunting it is important to realize that a rich arsenal of different ways to value and tax property is available, providing a flexible means of adapting the tax and its administration to widely differing country circumstances.[59] While an efficient and accurate cadastre is a 'sine qua non' of property taxation, there are also a variety of valuation techniques to measure the tax base, ranging—as discussed above—from simple unit land taxes (Vietnam, Nigeria) and taxation of estimated rental value to full-fledged market-value based systems. Many developing countries apply different property taxes to urban and rural property (Brazil, Namibia), taxing land and buildings in urban areas and only land in rural areas, while other countries exempt (partly or fully) agricultural land (Nicaragua, Guinea, Tunisia). To mitigate the impact of property taxes on low-income households and to substantially simplify tax administration by excluding low value property from the tax net, some countries only tax property over a certain threshold (measured in area or value, such as in Serbia).

Reformers can also draw on a richness of experience with the use of property taxes, in many developed countries (or their regions)[60] as well as in some developing countries, and software tools are widely available such as computer-assisted mass appraisal (CAMA) systems (Box 6) with a potential to be applied also in developing countries.[61] Similarly, there is a richness of experience, and multiple options available, with respect to the allocation between central and local authorities of the range of different responsibilities in the administration of the property tax; Martinez-Vazquez and Rider, 2008, map the actual allocation of these responsibilities in a number of developed, emerging, and developing countries.

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[59] See for example Mikesell and Zorn (2008), who discuss a variety of country experiences.

[60] Such as, for example, in Denmark, Sweden, Northern Ireland, Spain, and Canadian provinces.

[61] Eckert (2008) provides a detailed discussion of the construction and working of CAMA systems and its potential application in developing countries.

Box 6. CAMA Systems

The basic idea behind CAMA systems is to estimate a price index for a class of real estate, such as residential properties or business properties, from a representative sample of sold properties from the entire population (also called a 'hedonic' price index). This index relates sale prices to the physical and location features of the sold properties (for example, property use and quality plus zoning). The index is then applied to the register of properties, to revalue the entire universe of unsold properties. In developing countries with limited data on real estate markets, CAMA methods can make use of scarce price data to value entire classes of properties much more efficiently than traditional appraisal methods can. Also, recent improvements in spatial analyses using geographic information systems (GIS) and low-level satellite technology have reduced the amount of data that need to be collected from on-site inspections, resulting in a significant cost reduction to set up an accurate fiscal cadastre.

In CAMA systems, the taxable value is determined by using the capital (improved) market value of the property.[1] More specifically, capital market value would typically be estimated through the use of statistical techniques which assume that average or typical price setting patterns and relationships can be estimated using samples of recently sold properties. The estimated statistical relationships between values and property attributes can then be used to estimate the market value of all properties in the same property class. This method typically involves the following steps:

Step 1: Gather market sales data for properties that were sold recently and include in the analysis sales price and property attributes. Data needs to be cleaned to make sure that only data from arm's length property transactions are captured and that transactions have no special conditions attached.

Step 2: Using this sample of recently sold properties, estimate the relationship between property-attributes and the realized sales price using standard regression analysis methods.

Step 3: Collect attribute data for each land parcel, including land/site area, building area and building quality.

Step 4: By using the established relationships (coefficients) from Step 2, calculate the estimated sales price of all properties.

Step 5: Calculate the taxable value from the estimated market value if the two differ in terms of property tax policies (exemptions or thresholds, etc).

Step 6: Apply the approved tax rate to the taxable value to derive the tax liability.

Political economy considerations

Political economy considerations have also played important roles for the working of the property tax in many countries. By virtue of being a very transparent tax on an immobile base—the very features that make it a good tax—could be held also to be its greatest weakness, since it as noted earlier has contributed in making it a politically very unpopular tax. Furthermore, the property tax may, when looked at in isolation, run counter to politically and socially motivated objectives of stimulating home ownership, realizing the beneficial

externalities from owner-occupation.[62] Opposition to the property tax has in a number of countries led to 'capping' of the year-to-year growth of individual property tax liabilities.[63] A problem with capping is that, by driving a wedge between tax liability and the market value, the tax may be transformed to something else than a real property tax, with the consequences that may have for economic efficiency, revenue raising, and fairness.[64]

As discussed earlier, increased use of property taxes also raise complex issues of intergovernmental fiscal design, involving *inter alia* transfer systems. Particularly in many transition countries, democratization underpinned by decentralization programs has made the property tax an increasingly important instrument of local government financing.[65] As also discussed above, the use of taxes on business property raise particular issues that require attention *inter alia* to avoid that costs are raised disproportionately on businesses that use relatively more property as factor input.

By virtue of not being directly proportional to income, property taxes are also frequently considered to be unfair. This issue has been addressed in different manners, for example, by taxing property only above a certain threshold, or by exempting sectors characterized by a high frequency of low-income earners, such as agriculture in developing countries.

V. A STRATEGY FOR REFORM

The administrative and political economy challenges discussed above are not trivial, and require resolute action and careful planning. First and foremost, reforms require strong political will to introduce, enforce, and maintain a property tax—political will that must address the variety of policy and administrative challenges discussed in this note, and often in the face of strong popular opposition. These challenges cannot be resolved overnight but must be addressed through a medium-and long term reform strategy which has to be carefully calibrated to fit the particular circumstances of individual countries.[66] In particular, reform

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[62] See IMF (2009) which also illustrates the point that property taxation is only one element in determining effective tax rates on property, interest deductibility and (non-)taxation of imputed rent and capital gains being others.

[63] A well-known case in the US was 'proposition 13', an amendment to the Constitution of California enacted in 1978, which capped both property value increases (at 2 percent per year) and the tax rate (at 1 percent), but 'capping' is now in force in most US states (Lutz et al., 2010). Capping is also in place in other cities and countries such as Buenos Aires, Bogota, and Latvia.

[64] Ihlanfeldt (2011) discusses the potentially adverse impact of 'capping' on housing and labor market mobility, and tests for these effects in the case of Florida.

[65] Bahl (2009) refers to several such programs (p. 5).

[66] A particular timing issue in this respect is that the government that takes pain in initializing reform may not be the government that also reaps the benefits of reform.

approaches cannot simply be copied from successful developed countries. It is also important to realize that successful reform in this area, with promising revenue potential, requires an up-front investment in training and creation (or upgrading) of the necessary administrative infrastructure, first of all in the form of a comprehensive and accurate cadastre or register for tax purposes.

Common elements of a reform strategy would ideally involve the following:[67] [68]

- An in-depth diagnostic analysis that carefully maps present capabilities and identifies policy and administrative weaknesses, combined with policy decisions on the future role of property taxes, particularly as part of a broader decentralization strategy.

- Development of specific tax policy design, with particular focus on the definition of the base, the rate structure, and exemption policy; the key objective should be simplicity with a minimum of exemptions and other reliefs, for ease of administration and maximum fairness. Also, regular costing of reliefs in terms of revenue forgone is essential.

- Detailed planning of administrative reform, carefully adjusted to individual country circumstances, involving in particular: (1) improved coverage of cadastre or tax register; (2) better valuation, including procedures for regular updating; (3) improved record keeping based on close coordination between agencies involved; (4) improved collection rates though strong enforcement and low compliance costs; and (5) clear decisions on the allocation of responsibilities between the central and local governments with regard to how these core administrative tasks are carried out.

- Property transfer taxes should be reduced or phased-out, and possibly replaced by either the recurrent property tax under reform, or (where administratively feasible) a capital gains tax on property.

- Finally, to prevent property tax systems from falling back into disrepair, development of a monitoring device based on quantitative performance indicators is essential. These would ideally include regular assessments of coverage of the tax register, valuation performance, and collection efficiency.

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[67] See Bahl (2009) for a discussion.

[68] These elements are broadly applicable to both developed and developing countries engaged in property tax reform.

VI. CONCLUSION

In summary, efficiency and equity considerations combine in providing a strong case for exploring ways to further strengthen the role of property taxes, and in particular recurrent taxes on immovable property. While careful planning of necessary improvements to the basic administrative infrastructure is clearly required to carry out successful reforms in this area, there is a clear scope for assigning a more prominent role to immovable property taxes in the medium to longer term. While data deficiencies preclude accurate estimates of their potential role, it would not seem unrealistic to target a revenue raising potential of about 0.5–1 percent of GDP over the next 5–10 years for many developing countries, but with a much larger potential of about 2 percent of GDP or even higher for many developed countries that today rely only modestly on taxation of immovable property.

Appendix Table 1. Property Taxes in OECD Countries, 2010

Country	Year	WB Income Level	GDP/Capita (US$)	Taxes on Property General Government % of GDP	Taxes on Property General Government % of Total General Taxes	Recurrent Taxes on Immovable Property General Government % of GDP	Recurrent Taxes on Immovable Property General Government % of Total General Taxes	Recurrent Taxes on Immovable Property General Government % of Total Local Taxes	Recurrent Taxes on Immovable Property Local Government % of General Property Tax
Australia	2009	High income	44816.93	2.48	9.56	1.45	5.59	100.00	62.03
Austria	2010	High income	45270.84	0.54	1.96	0.23	0.85	15.17	88.89
Belgium	2010	High income	43378.80	3.00	10.15	1.24	4.19	54.12	95.97
Canada	2010	High income	46282.86	3.49	13.32	3.04	11.61	91.05	91.98
Chile	2010	Upper middle	12570.73	0.76	3.89	0.53	2.72	40.33	98.49
Czech Republic	2010	High income	18813.94	0.44	2.30	0.24	1.22	51.19	100.00
Denmark	2010	High income	56369.20	1.93	4.09	1.38	2.93	10.79	100.00
Estonia	2010	High income	14137.65	0.36	1.72	0.36	1.72	7.87	100.00
Finland	2010	High income	44364.37	1.16	3.91	0.65	2.19	6.31	100.00
France	2010	High income	40808.86	3.65	13.89	2.46	9.37	53.44	100.00
Germany	2010	High income	40197.67	0.85	3.83	0.46	2.07	15.87	100.00
Greece	2009	High income	29328.08	1.24	6.26	0.17	0.86	31.68	37.65
Hungary	2010	High income	12845.41	1.16	4.43	0.35	1.33	14.19	100.00
Iceland	2010	High income	38891.77	2.47	7.69	1.82	5.68	20.21	99.51
Ireland	2010	High income	46298.09	1.56	6.99	0.88	3.96	100.00	100.00
Israel	2010	High income	29264.07	3.12	11.63	2.32	8.64	95.18	99.74
Italy	2010	High income	34154.38	2.02	6.86	0.59	2.02	9.04	100.00
Japan	2010	High income	43014.64	2.70	16.98	2.14	13.47	30.01	100.00
Korea, Republic of	2010	High income	20764.59	2.86	14.77	0.79	4.08	16.34	86.71
Luxembourg	2010	High income	105509.30	2.65	10.28	0.07	0.29	4.55	100.00
Mexico	2009	Upper middle	7970.16	0.30	2.05	0.19	1.32	57.39	68.75
Netherlands	2009	High income	48151.04	1.49	6.11	0.69	2.83	48.10	97.25
New Zealand	2010	High income	32225.99	2.16	6.89	2.11	6.75	89.16	100.00
Norway	2010	High income	85055.45	1.24	3.75	0.34	1.03	4.82	83.78
Poland	2009	High income	11275.06	1.23	6.00	1.20	5.89	28.59	100.00
Portugal	2010	High income	21525.65	1.19	5.32	0.65	2.91	38.07	100.00
Slovak Republic	2010	High income	16049.85	0.42	2.61	0.42	2.61	50.85	100.00
Slovenia	2010	High income	23281.55	0.62	2.75	0.49	2.17	11.89	100.00
Spain	2010	High income	30333.75	1.94	9.82	0.81	4.12	28.84	100.00
Sweden	2010	High income	49078.05	1.10	3.21	0.80	2.32	2.62	53.45
Switzerland	2010	High income	67766.36	2.22	9.68	0.09	0.38	1.34	71.59
Turkey	2010	Upper middle	10062.43	1.06	5.40	0.24	1.24	9.96	100.00
United Kingdom	2010	High income	36371.26	4.23	14.92	3.42	12.06	100.00	51.81
United States	2010	High income	46900.39	3.21	17.49	3.07	16.76	73.03	96.68

Source: OECD Revenue Statistics 2011.

Appendix Table 2. Property Taxes in Non-OECD Countries, 2010

Country	Year	WB Income Level	GDP/Capita (US$)	Taxes on Property — General Government: % of GDP	Taxes on Property — General Government: % of Total General Taxes	Recurrent Taxes on Immovable Property — General Government: % of GDP	Recurrent Taxes on Immovable Property — General Government: % of Total General Taxes	Recurrent Taxes on Immovable Property — Local Government: % of Total Local Taxes	Recurrent Taxes on Immovable Property — Local Government: % of General Property Tax
Afghanistan, I.R. of	2010	Low income	527.77	0.27	3.01	0.23	2.65	58.48	17.46
Albania	2010	Lower middle	3714.65	0.15	0.79	0.15	0.79		100.00
Argentina	2009	Upper middle	7732.80	2.90	11.91	0.36	1.47		100.00
Armenia	2010	Lower middle	2840.43	0.45	2.78	0.24	1.50	45.11	100.00
Azerbaijan, Rep. of	2010	Upper middle	5712.95	0.36	2.84	0.36	2.84	96.08	6.62
Belarus	2010	Upper middle	5824.38	1.12	4.12	0.43	1.58	4.16	100.00
Brazil	2009	Upper middle	8472.46	1.12	4.87	0.40	1.74	29.95	96.48
Bulgaria	2010	Upper middle	6359.45	1.41	7.06	0.94	4.70	65.26	100.00
Cape Verde	2009	Lower middle	3174.52	0.47	2.32	0.47	2.32	70.62	100.00
China,P.R.: Mainland	2009	Upper middle	3738.95	1.73	9.91	0.51	2.90	6.05	100.00
Colombia	2009	Upper middle	5188.79	1.51	9.29	0.50	3.06	24.46	100.00
Costa Rica	2009	Upper middle	6519.66	0.29	2.10	0.20	1.49	32.69	100.00
Croatia	2010	High income	13775.86	0.26	1.23	0.01	0.06	0.47	100.00
Dominican Republic	2009	Upper middle	4814.82	0.53	4.04	0.03	0.21		100.00
Egypt	2010	Lower middle	2808.04	0.73	5.14	0.04	0.30		100.00
Georgia	2010	Lower middle	2623.38	0.92	3.95	0.92	3.95	69.68	100.00
Guatemala	2009	Lower middle	2686.47	0.19	1.82	0.19	1.79	100.00	100.00
Jordan	2009	Upper middle	3986.56	0.48	2.67	0.48	2.67		100.00
Kazakhstan	2010	Upper middle	9008.70	0.68	5.08	0.56	4.18	14.55	100.00
Latvia	2010	Upper middle	10680.53	0.70	3.82	0.70	3.82	12.45	100.00
Moldova	2010	Lower middle	1634.52	0.39	1.91	0.14	0.68	3.91	100.00
Mongolia	2010	Lower middle	2266.65	0.16	0.65	0.16	0.65	6.77	100.00
Paraguay	2010	Lower middle	2961.17	0.28	2.07	0.27	1.98	54.53	100.00
Peru	2009	Upper middle	4370.44	0.52	3.69	0.17	1.22	25.52	100.00
Russian Federation	2010	Upper middle	10407.93	1.22	4.43	1.23	4.44	16.76	23.41
Serbia, Republic of	2010	Upper middle	5141.72	0.67	2.77	0.41	1.70	12.19	100.00
Singapore	2010	High income	43864.74	0.90	6.66	0.90	6.65		100.00
St. Kitts and Nevis	2010	High income	12216.25	0.51	3.02	0.51	2.73		100.00
Tunisia	2010	Upper middle	4199.35	0.53	2.57	0.10	0.49	17.27	84.96
Ukraine	2010	Lower middle	3012.80	0.79	3.07	0.79	3.07	12.83	100.00

Source: GFS.

Appendix Table 3. Property Taxes in High-Income Countries, 2010

Country	Year	OECD	WB Income Level	GDP/Capita (US$)	Taxes on Property — General Government		Recurrent Taxes on Immovable Property — General Government		Recurrent Taxes on Immovable Property — Local Government	
					% of GDP	% of Total General Taxes	% of GDP	% of Total General Taxes	% of Total Local Taxes	% of General Property Tax
Australia	2009	Y	High income	44816.93	2.48	9.56	1.45	5.59	100.00	62.03
Austria	2010	Y	High income	45270.84	0.54	1.96	0.23	0.85	15.17	88.89
Belgium	2010	Y	High income	43378.80	3.00	10.15	1.24	4.19	54.12	95.97
Canada	2010	Y	High income	46282.86	3.49	13.32	3.04	11.61	91.05	91.98
Croatia	2010	N	High income	13775.86	0.26	1.23	0.01	0.06	0.47	100.00
Czech Republic	2010	Y	High income	18813.94	0.44	2.30	0.24	1.22	51.19	100.00
Denmark	2010	Y	High income	56369.20	1.93	4.09	1.38	2.93	10.79	100.00
Estonia	2010	Y	High income	14137.65	0.36	1.72	0.36	1.72	7.87	100.00
Finland	2010	Y	High income	44364.37	1.16	3.91	0.65	2.19	6.31	100.00
France	2010	Y	High income	40808.86	3.65	13.89	2.46	9.37	53.44	100.00
Germany	2010	Y	High income	40197.67	0.85	3.83	0.46	2.07	15.87	100.00
Greece	2009	Y	High income	29328.08	1.24	6.26	0.17	0.86	31.68	37.65
Hungary	2010	Y	High income	12845.41	1.16	4.43	0.35	1.33	14.19	100.00
Iceland	2010	Y	High income	38891.77	2.47	7.69	1.82	5.68	20.21	99.51
Ireland	2010	Y	High income	46298.09	1.56	6.99	0.88	3.96	100.00	100.00
Israel	2010	Y	High income	29264.07	3.12	11.63	2.32	8.64	95.18	99.74
Italy	2010	Y	High income	34154.38	2.02	6.86	0.59	2.02	9.04	100.00
Japan	2010	Y	High income	43014.64	2.70	16.98	2.14	13.47	30.01	100.00
Korea, Republic of	2010	Y	High income	20764.59	2.86	14.77	0.79	4.08	16.34	86.71
Luxembourg	2010	Y	High income	105509.30	2.65	10.28	0.07	0.29	4.55	100.00
Netherlands	2009	Y	High income	48151.04	1.49	6.11	0.69	2.83	48.10	97.25
New Zealand	2010	Y	High income	32225.99	2.16	6.89	2.11	6.75	89.16	100.00
Norway	2010	Y	High income	85055.45	1.24	3.75	0.34	1.03	4.82	83.78
Poland	2009	Y	High income	11275.06	1.23	6.00	1.20	5.89	28.59	100.00
Portugal	2010	Y	High income	21525.65	1.19	5.32	0.65	2.91	38.07	100.00
Singapore	2010	N	High income	43864.74	0.90	6.66	0.90	6.65		100.00
Slovak Republic	2010	Y	High income	16049.85	0.42	2.61	0.42	2.61	50.85	100.00
Slovenia	2010	Y	High income	23281.55	0.62	2.75	0.49	2.17	11.89	100.00
Spain	2010	Y	High income	30333.75	1.94	9.82	0.81	4.12	28.84	100.00
St. Kitts and Nevis	2010	N	High income	12216.25	0.51	3.02	0.51	2.73		100.00
Sweden	2010	Y	High income	49078.05	1.10	3.21	0.80	2.32	2.62	53.45
Switzerland	2010	Y	High income	67766.36	2.22	9.68	0.09	0.38	1.34	71.59
United Kingdom	2010	Y	High income	36371.26	4.23	14.92	3.42	12.06	100.00	51.81
United States	2010	Y	High income	46900.39	3.21	17.49	3.07	16.76	73.03	96.68
Average: High Income				38011.26	1.78	7.36	1.06	4.46	37.65	91.68

Source: OECD Revenues Statistics and GFS.

Appendix Table 4. Property Taxes in Middle- and Low-Income Countries, 2010

| | | | | | Taxes on Property | | Recurrent Taxes on Immovable Property | | | |
| | | | | | General Government | | General Government | | Local Government | |
Country	Year	OECD	WB Income Level	GDP/Capita (US$)	% of GDP	% of Total General Taxes	% of GDP	% of Total General Taxes	% of Total Local Taxes	% of General Property Tax
Argentina	2009	N	Upper middle	7732.80	2.90	11.91	0.36	1.47		100.00
Azerbaijan, Rep. of	2010	N	Upper middle	5712.95	0.36	2.84	0.36	2.84	96.08	6.62
Belarus	2010	N	Upper middle	5824.38	1.12	4.12	0.43	1.58	4.16	100.00
Brazil	2009	N	Upper middle	8472.46	1.12	4.87	0.40	1.74	29.95	96.48
Bulgaria	2010	N	Upper middle	6359.45	1.41	7.06	0.94	4.70	65.26	100.00
Chile	2010	Y	Upper middle	12570.73	0.76	3.89	0.53	2.72	40.33	98.49
China,P.R.: Mainland	2009	N	Upper middle	3738.95	1.73	9.91	0.51	2.90	6.05	100.00
Colombia	2009	N	Upper middle	5188.79	1.51	9.29	0.50	3.06	24.46	100.00
Costa Rica	2009	N	Upper middle	6519.66	0.29	2.10	0.20	1.49	32.69	100.00
Dominican Republic	2009	N	Upper middle	4814.82	0.53	4.04	0.03	0.21		100.00
Jordan	2009	N	Upper middle	3986.56	0.48	2.67	0.48	2.67		100.00
Kazakhstan	2010	N	Upper middle	9008.70	0.68	5.08	0.56	4.18	14.55	100.00
Latvia	2010	N	Upper middle	10680.53	0.70	3.82	0.70	3.82	12.45	100.00
Mexico	2009	Y	Upper middle	7970.16	0.30	2.05	0.19	1.32	57.39	68.75
Peru	2009	N	Upper middle	4370.44	0.52	3.69	0.17	1.22	25.52	100.00
Russian Federation	2010	N	Upper middle	10407.93	1.22	4.43	1.23	4.44	16.76	23.41
Serbia, Republic of	2010	N	Upper middle	5141.72	0.67	2.77	0.41	1.70	12.19	100.00
Tunisia	2010	N	Upper middle	4199.35	0.53	2.57	0.10	0.49	17.27	84.96
Turkey	2010	Y	Upper middle	10062.43	1.06	5.40	0.24	1.24	9.96	100.00
Albania	2010	N	Lower middle	3714.65	0.15	0.79	0.15	0.79		100.00
Armenia	2010	N	Lower middle	2840.43	0.45	2.78	0.24	1.50	45.11	100.00
Cape Verde	2009	N	Lower middle	3174.52	0.47	2.32	0.47	2.32	70.62	100.00
Egypt	2010	N	Lower middle	2808.04	0.73	5.14	0.04	0.30		100.00
Georgia	2010	N	Lower middle	2623.38	0.92	3.95	0.92	3.95	69.68	100.00
Guatemala	2009	N	Lower middle	2686.47	0.19	1.82	0.19	1.79	100.00	100.00
Moldova	2010	N	Lower middle	1634.52	0.39	1.91	0.14	0.68	3.91	100.00
Mongolia	2010	N	Lower middle	2266.65	0.16	0.65	0.16	0.65	6.77	100.00
Paraguay	2010	N	Lower middle	2961.17	0.28	2.07	0.27	1.98	54.53	100.00
Ukraine	2010	N	Lower middle	3012.80	0.79	3.07	0.79	3.07	12.83	100.00
Afghanistan, I.R. of	2010	N	Low income	527.77	0.27	3.01	0.23	2.65	58.48	17.46
Average: Middle Income				5367.11	0.76	4.00	0.40	2.12	35.48	89.87

Source: OECD Revenues Statistics and GFS.

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