

**International Studies Program  
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Tax: Should Developing Countries  
follow the Conventional Wisdom?**

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# *The Assignment of the Property Tax: Should Developing Countries follow the Conventional Wisdom? <sup>1</sup>*

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**Introduction**

A tax on the value of land and buildings is the tax most frequently assigned to local governments in decentralized countries. Although the property tax has a long history, over the past several decades it has gained increasing importance as developing and transitional countries pursue decentralized systems of governance. For decentralization to be effective, it requires a high degree of accountability by local officials to local residents. One important way to enhance accountability is for local governments to be required to raise a good share of their revenues from their own taxes levied on local residents. For this and many other well known reasons, many of which will be reviewed in this paper, the property tax on real estate holdings continues to be recommended by many local public finance experts as one of the main sources of local government revenue.

On the other hand, Roy W. Bahl and Jorge Martinez-Vazquez (2008) contend that confidence in the property tax as the main source of own local government revenue may be misplaced. Many countries that have assigned the property tax to local governments have not been able to realize the potential of this tax as a source of local revenue. In particular, developing countries make relatively little use of the property tax, on average raising revenues equal to a mere 0.6 percent of gross domestic product (GDP).

There are several reasons for the poor performance of the property tax, at least in developing countries. We have broken these reasons down into two sets: internal and external factors. Internal factors are concerned with the way property taxes are actually structured, with narrow tax bases and low tax rates, and the way they are administered, with infrequent reassessments and low rates of collection. We attribute external factors to the failure of many developing and transition countries to deepen fiscal decentralization, by, for example, requiring local governments to rely more heavily on own taxes as the marginal source of revenue. Accordingly, Bahl and Martinez-Vazquez (2008) speculate that the promise of the property tax in many developing and transitional countries is mainly dependent on whether there will be further pressure for decentralization; whether the valuation of property can be facilitated by some methods (area-based assessment) and technological developments (computerized mass appraisal or satellite-aided mapping); and whether central governments will give local governments access to other potentially productive tax bases, such as personal income taxes.

The goal of this paper is to revisit the issue of the appropriate assignment of the property tax within the context of a fiscally decentralized system. We examine whether the conventional wisdom of assigning property taxes to local governments is the right one. Particularly in light of the difficulties many developing countries have with properly administering the property tax and the apparent reluctance of local authorities to utilize the revenue potential of the property tax. Because the assignment of the property tax involves a number of functions, such as defining the tax base, setting the tax rate, as well as many administrative functions, like registration, assessment, and collections, we also examine the wisdom of assigning all of these functions to local governments versus assigning some of these functions to local governments and the remaining functions to higher level governments. In the latter case, the important issue is which functions are properly assigned to local governments.

In this paper, we are concerned with annual taxes on the ownership of real estate, or taxes on the value of land and buildings. Our discussion does not include real estate transfer taxes, wealth taxes, taxes on underground resources (e.g., water, minerals, and hydrocarbons), or other property related taxes, such as taxes on realized capital gains from real property. This does not reflect any judgment on our part about the relative merits or significance of these other taxes. In fact, the property transfer tax is a more important revenue source in many countries than the annual tax on real estate holdings. However, other papers in this conference address issues surrounding the most appropriate tax base or form of property tax. Our intention therefore is not to address these issues here. Nevertheless, our discussion of the property tax assignment issue implicitly implies that the most important form of property tax to discuss in this context is an annual tax on real estate holdings.

The remainder of this paper is organized as follows. In the next section we look at the ‘conventional wisdom’ regarding the assignment of the property tax. In section three, we look into what may be some important problems with that conventional wisdom. In section four, we try to quantify some of the conjectures/hypotheses developed in section three on the role played by different assignments of the property tax on its revenue yield. The last section concludes and extracts policy lessons for the assignment of the property tax in those countries undergoing fiscal decentralization reform.

## The conventional wisdom

Since the early 1900's local public finance and fiscal decentralization experts have held the firm conviction that the property tax is close to an ideal tax for local government finance.<sup>2</sup> There are good reasons why this opinion is so widely held. Before reviewing these reasons, it is helpful to take a step back from the property tax as such and briefly review the theory and practice of revenue assignments.

### *A perspective on revenue assignments*

Underlying the theory of revenue assignments are two fundamental questions: (i) what revenue sources, particularly taxes, should be assigned to each level of government and (ii) how should these arrangements be implemented? These two questions are typically examined from a normative perspective, using efficiency and equity criteria.<sup>3</sup> The most fundamental purpose of revenue assignments is to align expenditure assignments with sufficient revenue raising capacity at each level of government to finance the assigned responsibilities. Local governments can raise adequate revenues through a variety of revenue assignments and even without any tax autonomy at all but rather exclusively through intergovernmental transfers. The concern with allowing them to rely exclusively on transfers is that local government officials and residents alike will fail to internalize the full cost of providing benefits and therefore overspend on local services. Providing sub-national governments with revenue autonomy is a means of enhancing political accountability.<sup>4</sup> From this perspective, sub-national governments should raise their own funds and face hard budget constraints on their operating budgets.<sup>5</sup> However, only the richest local governments are likely to be able to finance themselves entirely from autonomous tax sources, and local governments with small tax bases are likely to require intergovernmental grants to finance their responsibilities while achieving minimum service standards.

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<sup>2</sup> See, for example, Richard A. Musgrave (1959), Wallace E. Oates (1972), Richard M. Bird and Enid Slack (1991), Roy W. Bahl (1998), and William J. McCluskey (1999).

<sup>3</sup> See Richard M. Bird (2000), Jorge Martinez-Vazquez (2007), and Charles E. McLure (1998). Less frequently, a political economy perspective is adopted, but this type of approach may be needed to explain why the revenue authority provided to sub-national governments in the law, for example through the assignment of property taxes, goes unused at the same time that these sub-national governments are starved for funds. For an answer to this very important set of issues, we need to look at the role of incentives.

<sup>4</sup> There are several other benefits from revenue autonomy, including addressing in a permanent way the problem of vertical imbalances or the signaling of borrowing capacity and creditworthiness. Greater tax autonomy, of course, can lead to larger horizontal fiscal disparities across sub-national governments, but these can be addressed through the proper design of equalization grants.

<sup>5</sup> This argument is made very clearly in Charles E. McLure (1998).

More practical guidance, particularly in the context of low-income countries, is to require local governments to raise own revenues to finance expenditures *at the margin*. This creates a nexus or Wicksellian link between the benefits of locally provided services and the cost of providing those services. Residents and local government officials alike are thereby encouraged to internalize the marginal costs of providing services and thereby avoid overspending on them. In contrast, if local governments rely exclusively on own revenues to finance services, tax competition among sub-national governments may lead them to under provide services, as they cut taxes to attract business. In short, the general principle of providing sufficient tax autonomy at the margin is not easily implemented. In particular, it is not immediately clear how the principle of ‘sufficient tax autonomy at the margin’ should be interpreted. There are no ready answers. A good guide to revenue assignments is the previously mentioned rule that autonomous tax sources should be sufficient to fund the expenditure functions, net of conditional grants, by the wealthiest sub-national governments.<sup>6</sup>

Once we accept that sub-national governments require at least some limited form of tax autonomy, the theory of tax assignments must address two further questions: i) what type of revenue autonomy is desirable and ii) what kind of tax instruments should be used to provide it? With respect to the form of tax autonomy, three dimensions have been identified in the literature.<sup>7</sup> The first dimension is which level of government has the right to choose the taxes that a given level of government can impose. There are good reasons to limit in some ways the ability of sub-national governments to levy certain taxes, for example, to introduce taxes on international and inter-jurisdictional trade.

Provided that these general restrictions are in place, there is a choice between an open list of taxes and a closed list of allowable taxes. There is no clear choice between these two approaches; there are advantages and disadvantages associated with each. Overall, a closed list of sub-national taxes may be preferable because it may avoid the introduction of nuisance taxes or highly distortionary taxes which can easily impede local economic development and growth.<sup>8</sup>

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<sup>6</sup> But even the richest of local governments may receive transfers either because of central government policy objectives, such as addressing externalities or for considerations pertaining to tax administration.

<sup>7</sup> See, for example, Richard A. Musgrave (1983), Robin Boadway (1997), John Norregaard (1997), Charles E. McLure (1998, 2000), and Richard M. Bird (2000).

<sup>8</sup> The international experience shows that providing sub-national governments with freedom to select their own taxes can quickly create problems. James Alm et al. (2004) discuss the example of Indonesia during the early years of decentralization reform.

On the other hand, a central government can easily abuse a closed list by prohibiting local governments to access productive revenue sources.

Whether an open or closed list is adopted, an additional decision needs to be made as to whether the base of specific taxes should be used exclusively by one level of government or whether tax bases may be used by several levels of government. The latter approach introduces vertical tax externalities into the fiscal system, as one level of government will not typically take into account the impact its policies may have on the tax base and revenues of other levels of government.<sup>9</sup> In practice, when an open list is adopted, it is generally the case that cohabitation of tax bases is allowed. The choice between exclusive or shared tax bases comes down to weighing the advantages and disadvantages associated with each choice.<sup>10</sup> A reasonable compromise may be a closed list of taxes that provides for the cohabitation of tax bases by different levels of government and intergovernmental transfers designed to correct for vertical externalities.

The second dimension of tax autonomy relates to which level of government can legislate over the definition of tax bases and which level has the authority to set tax rates. If sub-national governments are assigned only one of these authorities, then the autonomy to set tax rates is far more desirable than autonomy over the tax base in terms of achieving greater local accountability.<sup>11</sup> Focusing on autonomy to set the tax rate is generally believed to provide the desired tax autonomy at the margin to promote political accountability. Some also contend that tax rate setting autonomy may be preferred because it has a more direct impact on revenues and thus the spending ability of sub-national jurisdictions as well as a more transparent impact on fiscal competition and thus location decisions. In contrast, granting local governments autonomy to define the tax base is likely to lead to a proliferation of exemptions, deductions, and credits. The resulting lack of tax harmonization among jurisdictions leads to higher compliance costs to taxpayers who have tax obligations in several jurisdictions. In short, both households and

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<sup>9</sup> See, for example, Bev Dahlby and L. S. Wilson (1996, 2003), Michael Keen (1998), and Robin Boadway et al. (1998).

<sup>10</sup> The main disadvantage of cohabitation is vertical externalities. The most important disadvantage of using the exclusive basis is that typically sub-national governments will be shut out of any opportunity to use significant (either in size or elastic over time) tax bases, thus drastically reducing any meaningful possibility of sub-national tax autonomy. The imposition of exclusive tax bases can also lead to cumbersome tax structures, as in the cases of India and Pakistan.

<sup>11</sup> Of course, sub-national governments can be given authority over both the tax rate and the tax base. However, John D. Wilson, (1999) contends that granting authority over both to sub-national governments increases the scope for tax competition among sub-national governments with potentially negative but also positive consequences.

businesses may have an easier time comparing the net-of-tax benefits provided by different jurisdictions when the differences in tax burdens can be expressed in terms of differences in tax rates.

The third and last dimension of revenue autonomy refers to which level of government is charged with administering the various taxes.<sup>12</sup> This dimension of sub-national tax autonomy is often overlooked, perhaps out of a belief that centralized tax administration is always more efficient due to scale economies, and, in the view of some, decentralizing tax administration is mostly an issue of political patronage. However, there are some potentially important issues here, especially from the perspective of the property tax.

In deciding about the assignment of tax administration, it is useful to recognize that there may be a potential tradeoff between administrative efficiency and enhanced local accountability. If there are significant economies of scale or scope in the administration of taxes, sub-national tax administration is likely to be less cost effective. On the other hand, the accountability of local government officials may be enhanced when they are charged with the administration of their own taxes.

We also should expect this efficiency-accountability tradeoff to differ among taxes, depending on the available technology and administrative capacity at the local level. Although there appears to be a widespread belief that there are significant economies of scale and perhaps scope in the administration of the property tax, to the best of our knowledge, there is very little rigorous empirical evidence to support this view. An exception is David L. Sjoquist and Mary Beth Walker (1999) who use a sample of 138 county assessment offices in the State of Georgia to examine this issue. They find that a ten percent increase in the volume of assessments results in a 3 percent increase in total costs. This is consistent with the view that there are substantial economies of scale in the administration of the property tax. However, they also report that beyond 100,000 parcels, scale economies are pretty well exhausted. This suggests that rather small jurisdictions are large enough to exhaust scale economies in property tax administration. In any event, there may be no significant efficiency gains from centralized administration of the

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<sup>12</sup> See Charles L. Vehorn and Ehtisham Ahmad (1997), John L. Mikesell (2003), J. Lopez Laborda et al. (2007), and Jorge Martinez-Vazquez and Andrey Timofeev (2005).

property tax to offset the loss in local accountability that may result from centralized administration.<sup>13</sup>

There are other issues with the assignment of tax administration. In particular, the central administration may not have sufficient incentive to exert the same effort on collecting taxes assigned to local governments as those assigned to the central government.<sup>14</sup> This issue can be addressed by creating incentive compatible arrangements between the two levels of government for the collection of these taxes.<sup>15</sup> However, this is seldom done. An exception is Indonesia where revenues from the property tax are assigned to local governments (*kabupatens*), but the central government administers the property tax. In return for this service, the central government receives 10 percent of property tax collections. It is an open question as to whether this provides sufficient incentive at the margin for the central government to administer this tax on behalf of local governments.

Finally, some contend that tax administration should be assigned to the central government because local governments are more vulnerable to local elite capture. In this view, local elites will use their political influence to weaken or compromise the arms length administration of taxes. Thus, they can use this influence to favor their business interests and disadvantage or harm the business interests of their competitors or otherwise limit entry into the local market.

#### *What criteria should be used in the assignment of taxes?*

The conventional criteria used to guide revenue assignments reflect the dual role of taxes. Taxes simply provide a means to finance the provision of public goods and services. In addition taxes are often used to pursue other government objectives, such as addressing income inequality. Richard A. Musgrave's (1959) seminal work is the starting point for the principles of tax assignments. He divides the role of government in a market economy into three fundamental economic objectives: assuring macroeconomic stability, achieving a more equitable distribution of income, and facilitating a more efficient allocation of resources. This trichotomy, if you will,

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<sup>13</sup> It would be interesting to conduct a similar study in a developing country, using alternative assessment methods, such as computer assisted mass assessment (CAMA).

<sup>14</sup> See, for example, William Dillinger (1991) and Richard Hemming, Neven Mates, and Barry Potter (1997).

<sup>15</sup> In Indonesia, for example, revenues from the property tax are assigned to local governments (*kabupatens*), but the central government administers the property tax for a flat fee equal to 10 percent of collections. It is an open question as to whether this provides sufficient incentive for the central government to collect this tax on behalf of local governments.

is useful for assigning taxes to the various levels of government. Although there continues to be some controversy regarding these matters, the general consensus among public finance economists appears to be that policy decisions on economic stabilization and income distribution should be assigned to the central government. Decisions related to allocative efficiency - at least those with limited spillovers - should be assigned to local governments.

Regarding sub-national taxes, there is an additional list of desirable features.<sup>16</sup> First, sub-national taxes should facilitate the implementation of the 'benefit principle', which requires a correspondence between benefits received from the services provided to local residents and taxes paid by local residents. Second, sub-national revenue sources should have a tax base that is relatively evenly distributed among jurisdictions. This helps to minimize horizontal fiscal disparities and reduces the burden put on equalization grants to achieve a more uniform quantity and quality of services among sub-national governments. Third, sub-national tax sources should have immobile bases to minimize the likelihood of tax competition among jurisdictions in a 'race to the bottom.'<sup>17</sup> Fourth, sub-national taxes should be geographically neutral in the sense that they do not interfere with domestic or international commerce. In other words, they should not distort the location of economic activity across the national territory. In addition, sub-national taxes should not be exported, meaning that taxes levied by a sub-national government should be primarily borne by the beneficiaries of local government services, which presumably are the residents of the jurisdiction providing the service.<sup>18</sup>

Fifth, administrative feasibility is a desirable feature of local government revenue sources; sub-national taxes should not place undue costs of compliance and administration on local governments and residents. This feature may be particularly binding in developing countries where there may be large disparities in the capacity of the central government to

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<sup>16</sup> See, for example Charles E. McLure (1998).

<sup>17</sup> However, not all local tax competition is undesirable because some forms of it provide incentives to local politicians and bureaucrats to be more efficient: provide services according to citizens' preferences and to do so at relatively lower costs.

<sup>18</sup> Of course, non-residents may consume local government services. For example, people may live in a jurisdiction outside the urban area but travel into the urban area to work, shop, and play (movies, plays, and restaurants). In this case, they consume services provided by the urban government, such as roads, police services, and so on. It would not be considered tax exporting if the non-residents pay taxes to the urban government that roughly correspond to the cost of providing the services that they consume. The urban government could achieve this by levying excise taxes on restaurant meals, hotel rooms, and rental cars in the case of tourists and levying a payroll tax in the case of workers.

administer taxes relative to the capacity of local governments, particularly rural local governments, to administer them.

Sixth, sub-national taxes should have stable tax bases over time; revenue sources that are highly sensitive to general economic conditions, like profit taxes, should be assigned to the central government, which has a greater ability to deal with cyclical fluctuations in revenues through borrowing and other means. Seventh, sub-national taxes should be highly visible so that tax burdens are clearly perceived by local residents. As Edgar L. Feige, Michele Boldrin, and Harry Huizenga (2000) write, “[i]nformed private and public decisions concerning both the size of government expenditures and their distribution require a transparent tax system that fairly establishes each citizen’s total tax burden.” Finally, the tax assignments themselves need to be relatively stable over time to facilitate good budgeting and fiscal management practices among sub-national governments. If the central government frequently changes tax assignments, then local governments may have a difficult time planning because there will be a high degree of uncertainty regarding their future revenue raising capacity.

#### *Where does the property tax stand?*

There are hardly any taxes that comply with all of the desirable criteria listed above. A compromise is generally required among them. But, even though we cannot select one single best assignment, it is clear that these criteria allow us to select among superior and inferior tax assignments. In practice, naturally, there are disagreements on what should be included in the minimum list of requirements for tax assignment to sub-national governments. Since individuals and firms are highly mobile, tax assignments to local governments should respect the benefit principle as closely as possible.<sup>19</sup> Other requirements include revenue autonomy at the *margin* and stable assignments over time.

The most straightforward way to raise revenue in accordance with the benefit principle is to allow local governments to levy user fees or quasi-public prices to cover the cost of providing specific local government services. User fees are particularly attractive when the service in question is excludable, and there are no spillover benefits. Such services include public utilities,

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<sup>19</sup> As Richard M. Bird (2000) and others have argued, sub-national governments are mostly prescribed to engage in activities ensuring a more efficient allocation of public resources, and therefore they should be assigned revenue sources for which it is easier to establish a link with the benefits received by residents from local government spending.

recreational facilities, and limited-access highways.<sup>20</sup> In the case of many local government services, it is not technically feasible to exclude people from the benefits, as in the case of flood control, waste water treatment, fire and police services, solid waste management, and so on. Compulsory contributions or taxes should be used to finance such services. However, local government should strive to maintain a rough correspondence between taxes paid and benefits received by taxpayers from public services, particularly at the local level.

There is a general consensus in the local public finance and fiscal decentralization literatures that the property tax should be assigned to sub-national governments. According to the conventional view, the property tax has several features that make it particularly attractive as a sub-national tax. First, it falls for the most part on an immobile base and is likely to be neutral with respect to other commodity and factor inputs.<sup>21</sup> There is considerable controversy regarding the efficiency and incidence of a property tax.<sup>22</sup> To the extent that the property tax falls on land owners, it can lead to improved land use.<sup>23</sup> At a minimum, it may be safe to say that the property tax is neutral relative to prominent alternative sources of local government revenue, such as local taxes on business and wage income or sub-national sales taxes.

Second, the property tax can satisfy the benefit principle.<sup>24</sup> Certainly, there is widespread acceptance that improvements to land that are typically provided by local governments, such as access to sewerage, drinking water, electricity, and roads are capitalized into the value of the

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<sup>20</sup> Of course, primary healthcare and education are excludable, but it may not be desirable to finance such services with user fees because of equity considerations. Goods and services with limited or no spill-over benefits which are excludable are often called merit goods. It may not be desirable to finance merit goods with user fees because the poor may be excluded from them by doing so, and this may be perceived as unjust or inequitable to a large number of people.

<sup>21</sup> Brian L. Bentsick (1979) contends that valuation practices may create non-neutralities in resource allocation where land values change over time. He shows that taxes based on current market value or potential income favor investment projects with a short gestation periods and therefore involve significant resource costs. These costs can be considerably reduced if property appraisers assess current market value on the basis of greatest current income as opposed to its future income.

<sup>22</sup> There is considerable diversity of opinion about the proper interpretation of the property tax. According to the traditional view, a distinction is drawn between the tax on land and the tax on buildings. In this view, the tax on land is borne by the owners of land, and the tax on buildings is borne by the occupants of the buildings. In the new view, the property tax consists of a general tax on capital and deviations from this average tax are likened to a set of excise taxes on capital. Finally, proponents of the benefit view contend that the property tax is simply a price for local services. According to this view, it is therefore meaningless to talk about the incidence or excess burden of the property tax, just as it is meaningless to talk about the incidence or excess burden of any other price in a market economy. George R. Zodrow (2001) provides an outstanding summary of these views.

<sup>23</sup> Using Houston as an example, Michael W. Owen and Wayne R. Thirsk (1974) describe using a property tax with higher rates on vacant land could be used to increase the efficiency of land use and reduce urban sprawl.

<sup>24</sup> The more homogeneous housing and population are within a jurisdiction, the closer the property tax comes to being a benefit tax. For more on this topic, see, for example, Bryan Ellickson (1971), Bruce W. Hamilton (1976), and Charles Tiebout (1956).

land. The property tax also has the desirable feature of being largely non-exportable, so that much of the tax burden is likely borne by residents of the jurisdiction where the services financed by property taxes are provided.<sup>25</sup> Thus, financing such projects with property taxes can align public and private incentives and thus help contribute to the efficiency of local government.

If the benefit principle is the basis for assigning the property tax to local governments, then the difficult issue of which property tax base to assign to local governments arises. In particular, should local governments tax nonresidential commercial property? To the extent that businesses use locally provided goods and services, then, according to the benefit view, they should contribute to funding these services. This would argue for including nonresidential commercial property in the tax base. On the other, local governments may abuse the ability to tax nonresidential property by taxing them excessively in terms of the benefits received principle, and thus allowing local governments to tax such properties would create the opportunity to export taxes. As previously discussed, the ability of local governments to export taxes should be limited because it weakens the Wicksillian link between costs and benefits and thus diminishes local government accountability.

Third, the size or value of residential property may be related to an individual taxpayer's ability to pay tax. Thus, property tax burdens can be progressively distributed, especially in developing countries and therefore contribute to increasing the overall fairness of the tax system.<sup>26</sup> Finally, the property tax is a highly visible and thus conducive to enhancing accountability among sub-national governments.

Other advantages of property taxes are their revenue potential and stability. The property tax also has the advantage of imposing relatively low compliance costs on taxpayers because their intervention in terms of the determination of tax liability is minimal, except in the case of appeals.<sup>27</sup> Finally, from a political perspective, we may add that typically the property tax poses

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<sup>25</sup> This is true of a residential property tax. However, a general property tax on residential and non-residential properties may create opportunities for tax exporting. Special issues also occur in the case of jurisdictions with large number of vacation homes and rental properties.

<sup>26</sup> See, for example, Roy W. Bahl and Johannes F. Linn (1992) and Edward B. Sennoga, David L. Sjoquist and Sally Wallace (2008) for property tax incidence in developing countries. Several design features such as 'circuit breakers', homestead exemptions, and so on can be added to make property taxes more progressive or, at least, less regressive.

<sup>27</sup> The low compliance costs comes from the fact that it is generally not a 'self reported' tax. Some countries, especially in Latin America, have tried on an off the idea of having taxpayers assess the value of their properties and thereby self-asses their property taxes; but even when this is done, the reporting requirements have been small.

no significant problem from tax base competition and vertical tax externalities as this is not a tax that central governments tend to covet.

*What is the experience with the property tax?*

As discussed above, the property tax possesses many desirable characteristics of a good local tax, at least in theory. However, the property tax has not completely lived up to its promise, at least in some respects, in actual practice. In this section, we briefly review some of the drawbacks to the property tax as a sub-national tax. Most of the drawbacks discussed below are based on actual experience with the property tax in developing countries where tax administration, particularly at the local level, may be weak; decentralization often does not have deep roots; and subsistence agriculture may constitute a large fraction of the country's economic activity, especially among rural local governments.

The main drawback of the property tax is its unpopularity, and, as a result, it is also unpopular with public officials, especially elected ones.<sup>28</sup> The general dissatisfaction with the property tax may reflect the seemingly arbitrary assessments, liquidity problems for homeowners with valuable real estate assets but low incomes, and, ironically its visibility.<sup>29</sup> Often the property tax is levied on an annual basis which may contribute to its unpopularity; at least insofar as people have difficulty planning for such lumpy payments.<sup>30</sup>

Another significant drawback is the difficulty and expense of administering a property tax, as it requires establishing a fiscal cadastre, frequently updating property assessments, and collecting tax from reluctant and often cash strapped taxpayers. In addition, the property tax is difficult to enforce, because the confiscation of property for failure to pay may be considered too extreme due to the likely political fallout of doing so. These administrative obstacles are particularly acute in low-income countries. For example, Michael E. Bell and John H. Bowman

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<sup>28</sup> In fact, it may not be an altogether good sign that the property tax is just about the only tax that most central governments are willing to cede to sub-national governments. Perhaps pragmatic and experienced central government officials know something about the property tax that tax policy and fiscal decentralization experts do not.

<sup>29</sup> Being 'house rich and income poor' can be a problem for elderly people. Some countries use special exemption schemes (homestead exemptions and circuit breakers) to increase equity in the implementation of property taxes.

<sup>30</sup> It is interesting to speculate about the possible explanations for the unpopularity of the property tax. It would be interesting to investigate whether homeowners with mortgages that include monthly withholding of the property tax have a different attitude toward the property tax than those who do not have such withholding of the annual tax liability.

(2008) describe in some detail the difficulties inherent in extending property taxation in areas and countries in which a significant share of GDP is from subsistence agriculture, and there are weak property rights.

Roy W. Bahl and Jorge Martinez-Vazquez (2008) identify significant administrative costs and associated failures with the property tax. In developing countries, where enforcement is often lax, collection rates as low as 50 percent are not unusual.<sup>31</sup> Governments in all countries face great pressure to keep the nominal rates low because of the unpopularity of the property tax. A typical range for tax rates is generally between 0.5 and 1.0 percent.

The valuation rate is the ratio of assessed value to taxable market value. This rate describes the efficiency of the valuation process as well as discretionary decisions to reduce the base relative to full market value by applying assessment ratios that are less than 1.0 to the assessed value. If no discretionary assessment ratio is applied and all properties are valued at 100 percent of full market value, the valuation rate would be equal to 1.0. In practice, valuation rates can be as low as 20 percent. As mentioned, assessed values are sometimes low because legally they are set at something less than full market value. However, the overwhelming evidence from developing countries is that properties are dramatically under assessed relative to full market value. Often this is a consequence of the failure to undertake assessments on a routine basis. One finds developing countries working with assessments that have not been updated for a decade or more.<sup>32</sup> Infrequent assessments undermine the equity of the property tax. For example, Jerome F. Heavey (1983) shows that if property values are growing at different rates within a jurisdiction, infrequent assessments can give rise to systematic inequities. Another important reason why the taxable market value may be much greater than the value on the assessment rolls is that many properties are not valued at all.

The ratio of taxable market value to total market value gives an indication of the impact of exemptions and preferential treatments on the property tax base. In many countries, sizeable

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<sup>31</sup> There are other numerous examples of low collection rates. For example, Ana Maria Iregui et al. (2004) report effective collection rates of 80 percent for a large sample of Colombian municipalities in the period from 1999-2002, and Kyung-Hwan Kim (1993) reports collection efficiency in Indonesia of 65 percent.

<sup>32</sup> David L. Sjoquist (2007) reports that Jamaica revalued all parcels in 2002, the first revaluation in nine years. In response to the resulting six-fold increase in property values, Jamaica reduced the property tax rates of its progressive-rate structure and added a set of property tax caps. In this example, it is interesting to note that the political response to maladministration of the property. Infrequent assessments lead to a dramatic increase in property valuations. To calm the political fallout from the resulting increase in tax liabilities, a political decision is made to change the structure of the tax that reduces its revenue yield.

exemptions have been provided, depleting the tax base. These range from preferential treatment for homeowners to property tax holidays for new businesses. In the case of Chile, for example, two-thirds of all property is reported exempt from tax. Another cause of the divergence between taxable market value and total market value is the failure to discover and incorporate new construction on the tax rolls.

Finally, the ratio of market value of real property to GDP tells us how property values compare to total output in the economy. For example, in an urbanized country, one might expect a higher (and increasing) ratio. Local governments can exert little control over this component of revenue performance. In short, the reasons for the poor revenue performance of the property tax in developing countries are numerous, but many of them are largely within the control of local governments.

The property tax may not always work as a benefit tax. As previously discussed, the tax may apply to nonresidents through the taxation of commercial property, absentee owners of agricultural properties, and vacation homes. Regarding the equity of the property tax, there are significant issues with the taxation of land devoted to farming, forestry, and mining.<sup>33</sup> There are also concerns about the efficiency of financing local government services with property taxes. After controlling for differences in income and demographic characteristics, empirical studies typically find renter behavior regarding local public goods that is discernibly different from that of homeowners. Jorge Martinez-Vazquez and David L. Sjoquist (1988) show that homeowners have an incentive to support efficient levels of government service provision but renters of equal income and tastes do not when property taxes are used to finance local services. The main difference between renters and owners is that the former can always escape paying the property taxes required to fund the government services by refusing to pay a rental price which contains those taxes, i.e., renters may opt to relocate. In contrast, homeowners wishing to exit would have to pay a capital loss arising from the capitalization of 'excessive' public spending into their home values.<sup>34</sup>

The property tax also may not work at the local level for reasons having nothing to do with the property tax itself. For example, the property tax may perform poorly because the

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<sup>33</sup> In Pakistan, for example, the government gives large tracts of land to retiring high level military officials, and they turn around and sell the land for a huge profit without ever paying any tax on it.

<sup>34</sup> See, for example, Theodore C. Bergstrom and Robert P. Goodman (1973) among demand studies and Mickey D. Levy (1979) and Gil DeBartolo and Peter Fortune (1982) among voting studies.

structure of fiscal decentralization discourages local officials from using own revenues to finance local services. For example, the system of equalization transfers to local governments may create disincentives for using own taxes by clawing back revenues from local tax effort. Claw back is common but not as common as explicit or implicit soft budget constraints. There are many ways in which the central government can intentionally or unintentionally create soft budget constraints for sub-national governments.<sup>35</sup> Fundamentally, however, soft budget constraints occur when the central government appears to guarantee the debt of sub-national governments. In such circumstances, it would be irrational for local governments to make use of their own revenue raising authority, whether through property taxes or any other tax. And here a ‘chicken and the egg’ situation can develop. Local governments have no interest in developing their capacity for the property tax, and the property tax does not perform well because the capacity has not been developed. Finally, the property tax lacks revenue elasticity, meaning that the tax typically exhibits little automatic revenue growth. Meanwhile, the costs to local governments of providing services continue year in and year out.

### ***International experience***

Based on the foregoing discussion, the best policy recommendation would appear to be that to assign the property tax to local governments. Often, this recommendation is interpreted to mean that the full array of property tax functions - from determining the tax structure to the administration of the tax— should be assigned exclusively to local governments. Actual practice seems to recognize low administrative capacity at the local level in many developing countries, especially for the assessment of property values, and assign at least some administrative functions to the central government. Thus, the reality of property tax assignment in decentralized fiscal systems is mixed, but it largely follows the conventional view of the property tax: exclusive assignment to local governments of the full array of property tax functions.

In the remainder of this paper, we to try to bring to bear the actual experiences of countries with the property tax on at least one of the more puzzling questions raised above: why don’t countries raise more revenue with the property tax. In particular, we are interested in the way in which the assignment of property tax functions to local government influences the

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<sup>35</sup> Jonathan A. Rodden et al. (2003) provide an excellent set of country case studies, examining fiscal decentralization and soft budget constraints.

revenue yield of the property tax. Accordingly, we have collected information on property tax assignments by function for a sample of 59 countries, including developed, developing, and transitional economies. These data are reported in the Appendix.

For the reader's convenience, the data are summarized in table 1.<sup>36</sup> For example, table 1 shows that most countries in the sample, about two-thirds, assign the revenues from the property tax exclusively to sub-national governments.<sup>37</sup> Ten countries in the sample assign revenues to the central government, and a slightly smaller number of countries share revenues between the central and sub-national governments. But revenues are easier to assign to sub-national governments than are the powers to change the tax structure or administer the tax. In our sample, only 16 countries, or slightly over one-fourth, assign such powers exclusively to the sub-national level. Much more common is to have those powers shared between the two levels of government, about 44 percent of the countries in the sample. A smaller number, 12 countries, reserve all normative powers to the central government; however, this figure is just slightly higher than the number of countries that assign all revenues to the center.

In terms of administration, the cadastre, registration, and assessment functions tend to be quite centralized, with 45 percent of the countries making it a central responsibility. In a number of countries (10) this function is shared between the two levels. However, billing and collections is much more decentralized; 38 countries (close to two-thirds of the sample) assign this function to sub-national governments. Regarding the method of assessment, most of the countries in the sample follow some form of market-based assessment (43). A number of countries (8) use rental-based assessment (8) or area-based assessment (13); while the remaining countries (9) use a combination of methods. For the appeals function, more than one-half of the countries allow for administrative procedures; while one-fourth use the court system directly. However, for the remaining one-fourth of countries in our sample we have no information on the appeals system.

Overall it does appear that central authorities are much more willing to assign property tax revenues and different aspects of administration to local governments, than they are to decentralize the authority to set rates or define the base of the property tax. Thus the international experience with the assignment of the property tax is certainly mixed. The assignment of

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<sup>36</sup> The list of countries in the sample and their practice in the assignment of the property tax are reported in the Appendix.

<sup>37</sup> In most cases, these are local governments as opposed to regional or state governments. See the Appendix for further details.

revenues from the property tax to sub-national governments is positive insofar as we are concerned with providing them with an own source of revenue. Given the importance of giving local governments the autonomy to set rates as a means of strengthening local government accountability, it is disappointing that this power is less frequently assigned to local governments. Since the property tax is so difficult to administer, it is somewhat surprising that this function is more often assigned to local governments than the authority to set the rate.

Table 2 provides a summary of the joint assignment of these functions to local government. For example, table 2 shows that there is a negative correlation between the assignment of revenues to local government and the assignment of the authority to set tax rates and/or the tax base to local governments. There is also a negative correlation between assigning revenues and assigning responsibility for the fiscal cadastre as well as responsibility for conducting assessments to local governments. However, there is a positive relationship between assigning revenues and assigning responsibility for collections to local governments.

Finally, we examine the effect of the assignment of property tax functions to local governments on the revenue yield of the property tax in the countries in our sample by estimating OLS regressions. The estimated coefficients from a variety of specifications are reported in table 3. Due to missing values, we drop some observations. The dependent variable is a ten-year average (1995- 2005) of property tax revenues as a share of GDP. As explanatory variables, we include three relating to the assignment of property tax functions: revenue assignment, authority to change the tax base/rate, and responsibility for assessment. We set each of these dummy variables equal to 1.0 if the respective authority is assigned to local government and zero otherwise. Regarding the method of assessment, we include a dummy variable set equal to 1.0 if the country uses a market value method of assessment and zero otherwise. In addition, we estimate several specifications with an index of corruption. This index is obtained from transparency international and ranks countries according to perceptions of corruption from most to least corrupt. In other words, this index is decreasing in corruption. Finally, we control for GDP per capita (ten-year average) and tax morale. Tax morale is based on surveys of individual attitudes toward taxation in each country in our sample.

The regression results are limited by the size of our sample. Yet, there are some interesting results. Surprisingly, assigning revenues to local governments seems to have a negative effect on the revenue yield of the property tax. The estimated coefficient is negative in

all six specifications and statistically significant at conventional levels for specifications 2 and 5. The estimated coefficient for assigning the authority to set the tax rate and/or tax base to local governments is also negative but statistically insignificant at conventional levels. This result may easily reflect the structure of the fiscal system (i.e., transfer dependency and/or soft budget constraints). Due to the limited degrees of freedom, we are not able to explore this hypothesis. In two out of the three specifications that include the control variable for the method of assessment, the estimated coefficient of this variable is negative and statistically insignificant at conventional levels. Given the importance placed on market valuations, this result is interesting. In contrast, two out of three specifications that include responsibility for conducting assessments, the estimated coefficient on this variable is positive but statistically insignificant at conventional levels. Interestingly, the corruption index has the expected positive sign and is statistically significant at conventional levels.

These results are certainly suggestive. More work should be done to collect more comprehensive data. It would be interesting to investigate not only the effects of the institutional features of the property tax on its revenue yield but also the effect of the structure of the fiscal system itself on property tax effort. In particular, it would be interesting to examine those features that may have the greatest influence on tax effort at the local level, such as transfer dependency and soft budget constraints.

### **Conclusion: “Getting the best of all worlds?”**

All things considered, the property tax is a good tax to assign to the local level. However, not all local governments are created equally and consideration should be given to the capacity of local governments to administer a property tax. Similarly, not all property taxes are equally amenable to assignment to local governments. The fundamental recognition of these facts leads us to the following conclusions.

First, in the assignment of property taxes in an intergovernmental system of finance, we should focus on what appears to be the most important issue. From the viewpoint of efficiency and accountability the most important function is for local governments to have the autonomy to set tax rates for the property tax. It is less important that local governments are given authority to make other tax policy decisions on the structure of the property tax, such as providing for exemptions and other special treatments, like circuit-breakers and so on. We also believe that it

is less important that local governments are assigned the responsibility for different aspects of tax administration, including registration and valuation of property, billing and collections, and appeal procedures. While we say that giving local governments authority to define the tax base and to administer the tax are less important, we recognize that there may be advantages from assigning these responsibilities to local governments, too. For example, local governments may have informational advantages on needy families which would be important for setting circuit breakers. In addition, assigning ‘visible’ tax administration functions, like registration as well as billing and collections to local governments may contribute to greater accountability of local government officials to their residents.

Second, there is a need for a pragmatic and flexible approach to the assignment of administrative functions. In many countries, this assignment needs to be asymmetric. In the case of larger local governments with greater administrative capacity, all the administrative functions for the property tax can be assigned to those governments. In the case of smaller local jurisdictions, either due to scale economies or lack of adequate administrative capacity, these administrative functions may need to be assigned to higher levels of governments. Since the assignment of administrative functions for the property tax may enhance local government accountability, the decision for assigning these functions is not only a technical question involving assessments of administrative capacity and scale economies. In addition, we contend that there is an important tradeoff between efficiency and accountability in the assignment of administration functions that should be taken into consideration when making these assignments. Therefore, it is clear that the decision to decentralize administrative responsibilities may differ among countries, depending on the special circumstances as well as the goals for fiscal decentralization in that particular country. Also, there are administrative functions that the country’s constitution and laws may allow to be performed under contract by the private sector.

Third, there are also tradeoffs in the allocation of powers to change the structure of the property tax. Beyond the power to set tax rates, perhaps within a specified range, it may be appropriate to give local governments the authority to change the base such as in the case of granting exemptions or reductions in tax in the case of significant hardship, such as circuit breakers. The granting of these powers to the local level may take advantage of information available to local governments concerning the status of local residents and may also lead to enhanced accountability as taxpayers may more directly perceive the responsibility of the local

authorities in levying the property tax. However, the more authority assigned to local governments to adjust the base of property taxes, the less likely that the property tax will play an important role as a source of local government financing. In countries where there is not a tradition of raising revenue at the local level from own sources, assigning revenues from the property tax to the local level while simultaneously giving them power to set rates within a range (with a minimum rate greater than zero) may lead to greater local tax effort. The framework could also be augmented by assigning the responsibility for conducting assessments and billing and collections to the central level of government to promote arms length administration of the property tax and thereby inhibit local elite capture of property tax administration. If the local governments are given the power to grant exemptions and reductions of the tax at will, local tax effort is likely to be diminished. A tradition of transfer dependency and/or soft budget constraints also is likely to have an adverse effect on local tax effort.

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Table 1. **Property tax assignment practices of a sample of 59 countries**

Property tax function	Assignment			
	Central	Sub-national	Shared	No information
Revenue assignment	10	40	8	1
Authority to change base/rate	12	16	26	5
Cadastre	27	19	10	3
Billing and collections	16	38	3	2

Appeals <sup>a</sup>

Administrative	Courts	Other	No information
30	15	1	27

Assessment <sup>a, b</sup>

Market	Rental	Replacement	Area based	Other	Combination	No information
43	8	1	13	9	9	4

<sup>a</sup> Sample size is 59 countries, but records for some functions do not always add to 59.

<sup>b</sup> Some countries have a multi-stage appeals structure that applies to more than one tax base.

**Table 2. Correlation matrix of property tax functions assigned to the local level <sup>a</sup>**

Local government function	Revenue assignment	Authority to set and change rates/base	Cadastre	Tax collection
Authority to change rate/base	-0.03			
Responsibility for cadastre	-0.09	0.04		
Responsibility for tax collections	0.28	0.47	0.17	
Assessment authority	-0.03	0.12	0.34	-0.17

<sup>a</sup> Sample of 35 countries.

**Table 3:** OLS regression of property tax revenues as a share of GDP<sup>a</sup>

Variable	Specification					
	1	2	3	4	5	6
Revenue assignment (local government = 1)	-0.05 (0.26)	-1.29** (0.42)	-0.49 (0.29)	-0.52 (0.26)	-1.06* (0.38)	-0.51 (0.29)
Tax base/rate authority (local government = 1)	-0.13 (0.21)	-0.25 (0.22)	-0.25 (0.28)	-0.15 (0.20)	-0.22 (0.22)	-0.26 (0.27)
Assessment method (market value = 1)	-0.06 (0.20)	0.28 (0.23)	-0.07 (0.25)	-	-	-
Assessment authority (local government = 1)	-	-	-	0.14 (0.22)	-0.07 (0.28)	0.15 (0.27)
GDP per capita x 1000	-	-0.02 (0.05)	0.03 (0.05)	-	-0.02 (0.05)	0.03 (0.05)
Corruption index	-	0.34** (0.12)	-	-	0.32* (0.13)	-
Tax morale	-	-	0.28 (0.36)	-	-	0.33 (0.37)
Constant	1.02** (0.30)	0.56 (0.45)	0.47 (0.84)	0.98** (0.29)	0.63 (0.47)	0.32 (0.87)
Number of observations	33	27	28	33	27	28
R-squared	0.13	0.42	0.16	0.14	0.38	0.17

<sup>a</sup> Standard errors are reported in parentheses.

**Appendix**

Country	Revenue assignment	Authority to change the tax structure	Administration				
			Cadastré	Registration if different than cadastré	Billing and collection	Appeals	Assessment
Argentina	Provincial and local governments	Provincial and local governments	Cadastral office		Provincial and local governments	Formal appeal processes at both government levels	Market Value
Australia	State government for state and local taxes	Local governments		Registrar of Deeds and Registrar of Titles	Local Governments	State commissioner, courts	Market value, rental value or combination
Bolivia	Municipal Governments	Central government (Ministerio de Finanzas) along with municipal governments	Dirección Nacional de Catastro Urbano		Municipal Governments		Market Value
Brazil	Central (rural) and Municipal (urban) Governments	Central and Municipal Governments	Central (rural) and Municipal (urban) Governments		Municipal Governments		Market Value
Canada	Generally provincial governments; municipalities	Provincial governments		Provincial registry office	Municipalities	Provincial Review board, provincial courts	Market value
Chile	Municipal governments	Central Government	Servicios de Impuestos Internos(SII)		Central government (Treasury)	Internal Tax Service, Special Appeals Court on Property Valuation, Supreme Court	Area by location for land, construction value for buildings

## Appendix (continued)

Country	Revenue assignment	Authority to change the tax structure	Administration				
			Cadastré	Registration if different than cadastré	Billing and collection	Appeals	Assessment
China	The Central government is exclusively entitled to impose taxes	The provincial governments can make decisions w.r.t. tax rates within the limits set by the central governments.		Land administration departments	Local tax bureaus, revenue belonged to the local governments	Committee	Area, market value or rental value
Colombia	Municipal governments	National Congress defines tax base and rate. Generally a rate of range is established within which municipalities are free to choose	Instituto Geográfico Agustín Codazzi (IGAC)		Municipal governments (Secretarias de Hacienda)	Cadastral Division, petition tax administration	Market Value
Costa Rica	Municipal governments		Municipal governments (Catastro Nacional)		Municipal governments		Market Value
Ecuador	Municipal governments	Central Government along with Municipalities' ability to set rates	Municipal governments		Municipal governments		Market Value
Germany	Local governments	The State tax office calculates the base value, then the base value is multiplied by a municipal leverage factor	Grundbuch		Municipalities	Changes in standard assessments are rare	Market value (rental income/construction costs); area in former German Democratic Republic

**Appendix** (continued)

Country	Revenue assignment	Authority to change the tax structure	Administration				
			Cadastré	Registration if different than cadastré	Billing and collection	Appeals	Assessment
Guatemala	Central and Municipal governments	Central and Municipal governments	Central government (Dirección General de Catastro)		Mainly Central government, except for those municipalities with technical and administrative capacity		Market Value
Guinea	Central government			Taxation branch of the Ministry of Finance	Taxation branch of the Ministry of Finance	n.a.	Rental value
Honduras	Municipal governments	Municipal governments	Municipal governments		Municipal governments		Market Value, use of the land, location and improvements
Hungary	Local governments	Local governments	Land Offices under the Ministry of Agriculture. At the local level Duty Offices keep record of transactions		Local governments	n.a.	Area or adjusted market value
India	Local authorities, some state assessment authorities	Local authorities except some state restrictions (i.e. Rent Control Act and Central Valuation Board)			Local Authorities	Appellate Authority, appeal against revision	Mostly annual rental value, limited use of area and market value

## Appendix (continued)

Country	Revenue assignment	Authority to change the tax structure	Administration				
			Cadastre	Registration if different than cadastre	Billing and collection	Appeals	Assessment
Indonesia	90% Local Government 10% Central Government	Central government		Directorate of Property Tax within the Directorate General of Taxations, Ministry of Finance	Directorate of Property Tax within the Directorate General of Taxations Ministry of Finance	Objection to Directorate of Property Tax	Market value
Japan	Local governments based on a uniform national formula	Municipalities		Ministry of Justice	Municipalities	Valuation Council and Review Committees	Market value
Kenya	Local governments	Local authorities	Local Authorities. But they depend on Ministry of Land's rating department o create and update their valuation rolls		Local governments	Objections handled by local councils	Area, market value or combination
Latvia	Central government	Central Government	State Land Service for both the land cadastre and building register	Real Property rights record (register) is maintained by Title book office	Local governments	Head of local government council	Market value

**Appendix** (continued)

Country	Revenue assignment	Authority to change the tax structure	Administration				Assessment
			Cadastré	Registration if different than cadastré	Billing and collection	Appeals	
Mexico	Municipal governments	State and municipal governments jointly	Municipal governments		Local governments (Local Treasury Offices)	Fiscal authority judicial branch	Market value
Nicaragua	Municipal governments	Central government with Municipalities' ability to grant additional exemptions	Comisión Nacional de Catastro		Municipal governments	n.a.	Cadastral value
Panamá	Central government	Central and Provincial governments	Central government		Provincial governments		
Paraguay	Municipal governments and Departments	Central government (Ministerio de Finanzas Públicas)	Mainly Central government, except for those municipalities with technical and administrative capacity		Municipal governments		Market Value
Perú	Municipal and District governments	Central, Municipal and District governments	Central government [Comisión Nacional de Tasaciones (CONATA)]		Municipal and District governments		Market Value
Philippines	Provincial and local governments	Provinces, cities and municipal governments within the Metropolitan Manila area			Provinces, sometimes delegated to local authorities	Local and Central Boards of Appeal	Market value

## Appendix (continued)

Country	Revenue assignment	Authority to change the tax structure	Administration				
			Cadastré	Registration if different than cadastré	Billing and collection	Appeals	Assessment
Poland	Local governments (using information in central registries)	Local governments	2 central registries: i-Land and Building Evidence for technical cadastral information ii-Land Title Registry for owner/tax payer identification		Local governments; national tax office in smaller places	Local council, regional appeal board, Administrative Appeals Court	Area
Dominican Republic	Central government	Central government	Central government (Dirección General del Catastro Nacional)		Central government		Value greater than approximately US\$150,000
Russia	Central government	Regional and local governments may levy taxes only within federal limits	State Register of Land	State register of property rights	Local branch of federal tax service	No appeal mechanism	Area or adjusted market value
South Africa	Local governments. However, National and provincial governments regulate how the property tax is charged, assessed and collected	Local governments			Local governments	Valuation board and valuation appeal board	Market value

**Appendix** (continued)

Country	Revenue assignment	Authority to change the tax structure	Administration				
			Cadastre	Registration if different than cadastre	Billing and collection	Appeals	Assessment
Spain	Municipal governments	Central government but municipal governments can set rates between maximum and minimum set rates , tax relief for families and a surtax on empty dwellings	Central government authorities		??	Central governments authorities	Administered centrally and uniformly reflecting but not necessarily based on market values
Tanzania	Local authorities	Local governments subject to central government approval	Local authorities		Local authorities	Appeals Tribunal	Market value (or replacement cost, if market value not available)
Thailand	Local governments	The Ministry of Interior sets the tax rate schedule for use by all local governments		The civil engineering department of the local government is responsible for identifying the property subject to taxation	Local governments	n.a.	Rental value or market value
Tunisia	Central government	Central government		Urban Municipalities	Central government	Appeals on tax rate categories	Area, rental value
Uruguay	Departments	Central and Municipal government, along with Departments	Central government (rural; Dirección Nacional de Catastro) and Departments (urban)		Departments		Market Value plus additional 20% for improvements the rural cases

## Appendix (continued)

Country	Revenue assignment	Authority to change the tax structure	Administration				
			Cadastre	Registration if different than cadastre	Billing and collection	Appeals	Assessment
Ukraine	Central government-state tax administration	Central government	State Committee on Land Resources		Central government-Sate tax administration	n.a.	Area
United Kingdom	Property taxes on residential property(council tax) are set locally; business rates on non-residential property(non-domestic rates) are set nationally	The council tax by district councils, unitary authorities, metropolitan councils; business rates by the Valuation Office of the Inland Revenue			Local authorities. Business rates collected by local authorities but sent to national pool	Valuation tribunals, High Court	Market value for residential, rental value for non residential
Venezuela	Municipal governments	Municipal governments	Municipal governments		Municipal governments		Market Value

\* The information was collected by the authors from multiple sources.