WORKABLE SOLUTIONS FOR PROPERTY TAX REFORM

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Abstract

This paper elaborates on recommendations in the literature for evaluating the need for property tax reforms. It summarizes common reform issues and makes recommendations for reform programs. It contains policy and practice examples that are worthy of examination.

The opinions expressed in this presentation are the authors, not positions of the International Association of Assessing Officers, except when standards are directly quoted.

Keywords: Property taxation, reform, diagnostic, valuation

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Introduction

Given our backgrounds as practitioners and the wide range of policies evident in the design of property tax systems internationally, we propose to focus on the administration of recurrent taxes on immovable property, especially technical matters, including valuation. Since policy influences administration and since administrative practices that clash with legislation become de facto policy, we will touch on some policy matters.

"Reform" can mean many things. Here we use *reform* to mean any change in policy or administration that makes an immovable property tax system fairer and more acceptable or more productive or efficient in revenue terms. By workable solution, we mean a policy or practice that has made a reform effort possible and that led to a sustained improvement.

There is much well-grounded advice on reforming property taxes (Almy, Dornfest, and Kenyon 2008; Bahl 2009; Bahl and Linn 1992; Bahl, Martinez-Vazquez, and Youngman 2010; Bahl, Martinez-Vazquez, and Youngman 2008; Bird and Slack 2004; Brys 2013; Brzeski 2003; Dale 2005; Dillinger 1991; Gill 2000; Grover et al. 2015; International Association of Assessing Officers (IAAO) 2014; Keith 1993; McCluskey, Cornia, and Walters 2013; and Norregaard 2013). Nevertheless, annual taxes on immovable property often seem underutilized, and it seems that reform goals are seldom fully realized. Our goal with this presentation is to consolidate key recommendations for carrying out successful reforms and provide examples of policies and practices worthy of consideration.

Bahl (2009) and Norregaard (2013) succinctly provide a structure for evaluating the need for property tax reforms and developing a reform program. In the executive summary (pp. iv-vi), Bahl (2009) lays out an eleven point strategy for improving a property tax regime that reflects much accumulated wisdom; Norregaard (2013, p. 35) by omitting some detail, manages to collapse that to five bullet points. Figure 1: Summary of two property tax reform strategies paraphrases (and slightly reorders) their recommendations.

//// Insert Figure 1 about here. /////

Our presentation follows the flow of Figure 1. It incorporates some of the points made by Brys (2011). As recommended, a property tax reform effort should begin with an evaluation of the current situation.

Situation Analysis

Having a good understanding the current situation is a prerequisite to developing a workable reform proposal. Experience has shown that reformers should take a holistic or systemic perspective in their analyses and planning (Bahl 2009). They should evaluate the existing tax system looking for its strengths and weaknesses (or opportunities for improvement). The evaluation might also consider opportunities and threats. This is the so-called SWOT (strengths, weaknesses, opportunities, threats) analysis used in strategic planning.

The analysis should consider how geography and the economy affect the current situation and the potential for reform. In particular, economic and cultural factors related to voluntary payment of taxes should be considered. For example, Figure 2: Scatterplot of reliance on recurrent taxes on immovable property against perceived corruption with markers indicating World Bank income group suggests that it would be challenging for poorer countries to implement property tax reforms that significantly increased yields without also addressing underlying issues of poverty and corruption. The figure shows the relationship between recurrent taxes on immovable property as a percentage of GDP (on the vertical axis) and Transparency International's Corruption Perception Index (CPI) (on the horizontal axis, where the lower the index, the greater perceived corruption) with the World Bank's income level (indicated by the color of the dots). It shows that the lower left quadrant is made up of mostly poorer countries, where the vertical and horizontal reference lines mark the median CPI and median percentage of GDP, respectively. The right-hand side of the figure, on the other hand, is made up of mostly richer countries with lower levels of corruption, which suggests that a low level of reliance on recurrent taxes on immovable property is a policy choice, as opposed to an environmental constraint. (See Transparency International 2014.)

//// insert Figure 2 about here ////

As another example of important environmental factors, Figure 3: Scatterplot of reliance on recurrent taxes on immovable property against selected real estate transparency factors with markers indicating World Bank income group, plots reliance on property taxes against the regulatory and legal sub-index of Jones Lang LaSalle's (JLL) Global Real Estate Transparency Index (GRETI). As with Figure 2, greater transparency is associated with greater reliance on property taxes. The full index, GRETI, is a composite of five sub-indices. The regulatory and legal sub-index was chosen here, because it is based on items most under the control of government. It considers such factors as property registration, property taxation, land use planning, and building controls. (See JLL 2016). As Figure 4: Common interdependencies and

information flows between the property tax system and other bodies and systems suggests, effective and efficient immovable property taxation depends on data from institutions responsible for such functions. Thus institutional arrangements need to be evaluated. Ideally, major property institutions would share an integrated database. However, suitable protocols for supplying needed data would be sufficient. Experience has shown that high-level political support for a reform proposal is required if interagency cooperation is to be achieved.

//// Insert figures 3 and 4 about here. ////

A formal analysis of the current situation should consider the importance of the following in designing a reform:

- The legal and institutional framework for property taxation providing an overview of the current governmental structure, identifying recognized strengths and problems
- Current property institutions, such as the role of real estate agents, mortgage lenders, and valuers
- The overall functions of government in the country and how functions are distributed among tiers of government
- Public finances, focusing on taxes on property

The analysis could combine commissioned policy papers, strategic planning retreats, and commission and legislative hearings.

Strategic planning provides a way to focus on the things that need to be considered in designing and carrying out a reform. It addresses the questions "Where do we want to be?" and "How will we get there?" The second question involves deciding what will be required to realize the plan's goals and objectives. General considerations to bear in mind include:

- Planning is not doing
- Plans should be realistic: good enough is better than perfect
- Solutions should be economical
- Simple solutions should be sought

In short, plan to succeed. Plans should be flexible, so that unanticipated events do not automatically derail the reforms. Phased-approaches can improve the chances of success. Much of Lithuania's recent successes in developing a mass valuation system and introducing value-based taxes on immovable property can be attributed to its phased reforms (Almy 2015).

There are many planning approaches, but it is often helpful to have an external facilitator to transcend the biases of current leaders. Making the planning process participatory will help obtain their "buy-in." The resulting implementation plan should answer the following questions affirmatively.

- Are objectives concrete and clear?
- Is the legal framework adequate?
- Is the institutional framework satisfactory?
- Is the management structure empowered to solve problems?
- Are resources sufficient?
- Are deadlines realistic?
- Have tasks been outlined?
- Are responsibilities understood?
- Is there an agreed accountability framework?
- Does the plan address the transition from the current situation to the desired situation?
- Have risks been analyzed and are steps in place to mitigate them?

Although every country should decide for itself the nature and role of its governmental institutions and of its public finance and taxation systems, a study of other countries' practices may provide useful policy and practice suggestions. An issue is how best to make international comparisons. Several kinds of fiscal and administrative metrics have been used. These are the subject of the next section.

Fiscal and Financial Metrics

The theme of this conference, "towards an evidence-based approach," calls attention to the need for objective data to measure or evaluate the affordability of a tax proposal, its fiscal potential, and its administrative feasibility. Currently, only fiscal data are collected and analyzed sufficiently in most systems.

Affordability Metrics

There is a considerable literature on setting property tax rates (for example, McCluskey, Cornia, and Walters 2013). There is little guidance on the *levels* of taxation that many citizens would consider affordable (setting aside such questions as trust in government and a general dislike of paying taxes), especially when they are "asset-rich and cash-poor." Thus an explicit calculation of affordability would seem to be important in proposing a broad-based property tax in a country with many poor people.

Ultimately, however, matters of affordability are a matter of judgment. Some property tax experts believe than property taxes in the range of 1-2 percent are generally affordable, although those with lower incomes being able to afford less (Almy, Dornfest, and Kenyon 2008, p.49).

If the data are available, affordability metrics might include per-household (family) taxes as a percentage of per-household income. Alternatively, per-capita figures could be used. As Brzeski has done, average taxes can also be equated to a common purchase, such as the cost of a carton of cigarettes or a dinner in a restaurant, perhaps paid in several installments.

Fiscal Metrics

Several metrics can be used in making international comparisons of the importance of taxes generally or of a particular kind of tax in a nation's economy and system of government. Perhaps the most common is the tax or taxes generally as a percentage of GDP. This gives a picture of the importance of the tax in the economy. When the interest is in the importance of a tax in a revenue system, the tax as a percentage of revenue or of all taxes can be used. Such figures can also be computed by level of government, such as local government.

While international comparisons provide a context, realistic reform proposals require information on the actual and potential composition of the property tax base. These data are needed to evaluate tax capacity and effort and to evaluate policy options. Too often, time-series and cross-sectoral data are not available for the kinds of studies that accompanied the Northern Ireland reforms ten years ago (NIRSA 2006 and McCluskey and Woods 2010).

Norregaard (2013, p. 12) proposed a simple method for gauging potential revenues from property taxation in the absence of local statistics on tax capacity: comparing a country's ratio of tax revenues to the average of the best performing countries in its World Bank income group. This suggests a substantial untapped revenue potential from the property tax in many countries, although net gains may be less in countries that should reduce transfer taxes. In addition to Figures 2 and 3, Figure 5: Box plot of recurrent taxes on immovable property as a percent of GDP by World Bank income group demonstrates for a sample of 75 countries how this might be done. Figure 5 is a "box plot" of recurrent taxes on immovable property as a percentage of GDP on the vertical axis and World Bank country income categories on the horizontal axis. In the plot, the bottoms and tops of the "boxes" represent the 25th and 75th percentiles (the interquartile range) of the percentages on the Y axis. The dark line in the middle of the box indicates the 50th percentile (the median). The T-bars that extend below and above the boxes are called inner fences or

whiskers. These extend to 1.5 times the height of the box or, if no case has a value in that range, to the minimum or maximum values. The small circles beyond the whiskers are "outliers." These are defined as values that do not fall inside the whiskers but are at a distance above or below the box that are less than three times the width of the box. An asterisk or star above or below an outlier is an "extreme outlier" or, simply, an "extreme," which is a case that has a value more than three times the height of the box. The dotted horizontal line depicts the overall median of the sample (0.47 percent of GDP). Thus, any country that has a ratio below the median for the category could strive to increase its reliance on recurrent taxes on immovable property to some point approaching the upper boundary of the box.

//// Insert Figure 5 about here.////

On the question of tax *needs* (which simultaneously reflect spending plans and available sources of revenue), and tax effort, there are two main property tax rate-setting approaches: fixing rates in legislation and providing for floating rates. In the first approach, tax effort simply is the tax base multiplied by the tax rate (or rates, when there is a system of differential rates). Under a floating rate regime, the rate is determined by application of the following formula.

$$R = \frac{E - NPR}{AV},$$

where R is the rate of tax, E is the total approved budget, NPR is total estimated non-property-tax revenue, and AV is the tax base (in a value-based tax, total assessed value). The rate, R, can still be subject to limits. Thus, the first step is to determine the amount of revenue desired from the property tax, which is called the property tax levy. This levy usually is the difference between planned expenditures and the revenues anticipated from other sources (fees, other taxes, grants from other tiers of government, and so forth). Of course, if rates are set below any maximums or if the measure of the tax base is under-stated, tax capacity can exceed tax effort. In other words, there is a potential for increasing tax yields.

Administrative Metrics
As is widely recognized (Kelly 2013 and McCluskey, Cornia, and Walters 2013), agencies responsible for property tax administration can under-perform in three main ways.

- Not all potentially assessable property (or taxpayers) is reflected in assessment records—the so-called "coverage ratio"(CVR), which is the ratio that results from dividing the number of actually assessed properties by all assessable properties in the district.
- In a value-based property tax, valuations can fall short of actual values—the "valuation ratio" (VR), which is the ratio that results from dividing the total assessed value of actually assessed values by the value total that would result of values were current and accurate.
- Taxes actually received fall short of taxes billed—the "collection ratio" (CL), which is taxes collected divided by the taxes billed based on the interplay of the coverage and valuation ratios.

The following formula (Kelly 2013) is used to depict the interplay of these ratios and their effects on property tax revenues.

$$\text{Tax Revenue} = [\text{Tax Base} * \text{Tax Rate}] * [\text{CVR} * \text{VR} * \text{CLR}].$$

As can be seen, realizable property tax revenue is less than potential revenue when any of the administrative ratios is less than 1.0. As discussed in the section on monitoring performance, calculating the ratios is not straightforward. However, they do provide a useful conceptual framework for evaluating administrative performance.

There are other metrics that merit consideration. The main one is the ratio of costs of tax administration (administrative costs plus compliance costs borne directly by taxpayers) divided by the revenues produced. The goal is to be efficient, that is to find the optimally low ratio of costs to revenues. Costs on a per-unit (property) basis, such as cost per property can be helpful. Unfortunately, few data are readily available of the administrative costs of property taxation and on compliance costs of income taxation and consumption taxation. Table 1: Mass valuation and administrative cost benchmarks presents available data on costs of mass valuation for property tax administration.

//// Insert Table 1 about here.////

Affordability, fiscal, and administrative metrics should be considered simultaneously in designing property tax reforms.

Policy Strategies to Consider

A survey of all possible policy matters that can be important in the design of an improved recurrent tax on immovable property is beyond the scope of this paper. Consideration should be given to whether conditions are appropriate for the introduction of a market value-based tax on immovable property. Important factors include the following.

Property market openness and efficiency. Evidence of market values comes from markets in land, improved properties, and premises. Thus, there needs to be open markets for buying and selling and for renting before values can be estimated accurately. Rights to own and use property privately should be legally protected (see cadastral system improvements, below). Markets function better if there are supporting professionals such as agents and brokers, valuers, lenders, and notaries. Such functions should be appropriately regulated and supported by academic institutions. As previously mentioned, the JLL GRETI can be used to identify areas where opportunities for improving the property market legal and regulatory environment might exist. The World Bank's Doing Business surveys also can be used.

Legal framework for value-based property taxation. Policies and procedures acquire legitimacy through legislation. Property tax laws should lay out policy choices clearly, provide the environment for their achievement, and assign responsibilities. Laws should provide:

- *A clear definition of the value standard and a statement of valuation assumptions*, such as the date of valuation, the rights that are to be valued, the use of the property that is to be valued.

- *Access to market data*—buyers and sellers should have a duty to disclose sales prices and terms to the agency responsible for valuation for property tax purposes. Desirably, a sales register would be public. Incentives to conceal true prices and ownership, such as high transfer taxes, should be removed. Incentives to disclose prices and ownership changes, such as taxation of capital gains, should be enacted.

- *Guidance on valuation methods*—it is useful to support the basic valuation standard with guidance on acceptable valuation practices.

- *A revaluation requirement*—there should be a requirement to revalue properties regularly. Ideally properties would be revalued every year, but intervals as long as four to six years considered

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acceptable. The more dynamic property markets are, the shorter should be the revaluation interval.

- *Publicity and appeals*—taxpayers should be notified about new values, and there should be a simple, accessible, cost-conscious and responsive appeal system. At the same time, making an appeal should not unduly delay tax obligations.

- *Measures to mitigate excessive annual increases in property tax obligations*—any meaningful reform implies that some taxpayers will be expected to pay more taxes (and some will be asked to pay less). Measures to cushion the impact of the reform on taxpayers with limited means should be considered.

Management and organization of the property tax administration and the valuation agency. There are many different organizational patterns internationally for valuation and property tax administration. Table 2: Cross-tabulation of type of agency responsible for valuation by level of government responsible for valuation shows available information on the types of agencies responsible for valuation by the level of government responsible for valuation. Perhaps the chief argument for making a cadastral agency responsible for valuation is the possibility for creating a multipurpose valuation system, thereby allowing the cost of the system to be shared among users. Lithuania and Slovenia are among the countries with such systems. Especially when local governments are responsible for valuation, having valuation be a function of the tax administration can increase the chances of sufficient resources being allocated for valuation. Netherlands is an example of strong performance by valuers in local tax administration offices. Independent (standalone) valuation offices are advocated because they are insulated from political interference. Sometimes they are under-resourced. An example of a strong valuation authority is the Valuation Office Agency in the United Kingdom.

//// Insert Table 2 about here. ////

To summarize, as various policy options are considered, it is helpful to:
- Keep affordability and cost-effectiveness in mind.
- Be aware that any reform results in "winners" (those who will pay relatively less tax) and "losers" (those who pay more). Losers probably will squawk more than winners.
- Consider "revenue neutral" proposals initially to reduce overall opposition to the reforms.
- Be alert to unintended consequences.

- Lower transfer tax rates while increasing recurrent tax rates to reduce the incentives to conceal transfers of property and to understate sales prices.

In promoting a reform proposal, it often is better to focus on the negative aspects of the current situation rather than the putative benefits of the proposed reforms.

Administrative Reforms to Consider

As the foregoing suggests, administrative reforms should be designed to increase effectiveness (that is, improve coverage, valuation, and collection. They should be designed to be sustainable.

The resources required—and the administrative results that can be expected—depend on the technology employed. Perhaps out of custom, a lack of awareness of alternatives, or as a stratagem to thwart reform, policymakers and administrators can cling to unsatisfactory technologies.

In short, instead of perpetuating barriers to reform, there is a need to find workable solutions. Experience provides many examples, including exemptions of small or low-value properties, focusing on developed property, and creating value groups ("bands") instead of having a distinct value for each property (such as was done for the Council Tax in the United Kingdom).

Progress is being made in adapting computer technologies, particularly geographic information systems (GIS) to the requirements and means of developing countries. There are applications for recording multiple interests in properties, delineating approximate parcel boundaries, and developing and applying simple valuation models.

<u>Cadastral system improvements</u>

The following are policies and practices that can lower the coverage ratio (CVR). Reforms should be designed eliminate any such weaknesses.

Having a person-based fiscal cadastre (list of taxpayers) instead of a map-based cadastre (list of properties by location or address)—map-based cadastres make it possible to verify whether all land and buildings have been accounted for and registered, whereas the success of a person-based cadastre is crucially dependent on finding owners and having them submit accurate declarations of their land and building holdings. Of course, a map-based cadastre should hold information on owners, users, or both of properties.

Allowing unregistered properties to escape taxation—although juridical (title or ownership) cadastral records should be linked to fiscal records, taxability should not be contingent of a property's being registered in the juridical cadastre. In other words, the act of registering ownership (or other rights) should not be the event that makes a property subject to taxation; the mere physical existence of the property should make it subject to taxation. This removes one incentive to not register property rights.

Allowing "illegal" or unauthorized use of land or construction to escape taxation—in a similar vein, the existence of "illegal" or unauthorized construction should not be a reason to exclude a property from taxation (that is, not register and assess it as it exists). Taxation and any efforts to enforce land use and construction regulations or to regularize illegal construction should take place in parallel with taxation. *Having a property identification system that does not have the property of "uniqueness"*—that is, whenever the size and shape of a land plot (parcel) changes through dividing it into plots or by combining it with another plot, the existing property identifiers (PIN) should be replaced by new identifiers for each of resulting part or parts (IAAO). In this way, a PIN unambiguously identifies the property associated with it. This is vitally important when several years of sales are being analyzed.

Not having a sales register—especially for valuation purposes, it is important to create a sales register in which each transfer of property constitutes a separate record. Such records contain facts about sales prices and the details of a sale, together with information about the attributes of each property at the time of sale. Ideally, each property would be inspected shortly after it was sold, but it is acceptable to copy the attribute data on file to the sale record. Having such sales records makes it unlikely that there would be a mismatch between the property sold and the property valued.

Having insufficient information for valuation (and taxation) or having information that is not useful in valuation—the amount of data maintained for each property should be rationalized to reflect only the data needed for valuation and to determine taxability unless there are other specific data needs. Holding more data than are needed increases the costs of initial data collection and data maintenance. By some estimates, about 75 percent of the costs of a revaluation are related to data collection. In any case, information on the location of properties, characteristics of land plots, and characteristics of buildings and other taxable structures in mass valuation (IAAO 2014 and Gloudemans and Almy 2011). Many factors affect specific data needs. Estimating costs often requires more detailed data than does building multivariate statistical models of sales or rents, which seldom require more than twenty variables.

Using high data collection costs as an excuse not to obtain or update the data needed for defensible values—although data collection and maintenance are undeniably costly, experience has shown that there are numerous ways to make them affordable. First, data needs should be studied. The recent Turkish mass valuation pilot project included a study of data needs, collection methods, and costs (Güneş and Yildiz. 2015). Moving to data collection methods, periodic field inspections by valuers or trained data collectors reflect best practice but are comparatively expensive. Although relying on taxpayer declarations runs a risk of misreporting, countries, including Sweden, have successfully relied on them. Modern low-level oblique aerial photography and ground-level photography offer a new, comparatively affordable data collection option.

When mere observation reveals that officially registered data are inaccurate, data reflecting reality should be relied upon in lieu of official data (that is, those data should be updated).

Valuation system improvements
Fundamentally, valuation methods should be suitable for their purposes. When the purpose is taxation, it is unreasonable to expect the ultimate in valuation accuracy. The concept of "ambition" has been used, and the concept of "cadastral value" and related terms has long been understood to imply an approximate value. Of course, the valuation system should reflect the realities of the local marketplace in terms of price data availability. In any case, so-called "mass valuation" rather than individual property valuation should be used for efficiency, if not effectiveness. Mass valuation involves developing one or more mass valuation "models." At the lowest level of ambition, the models might merely reflect average prices for a type of property in a specified location (or the average price per unit, such as a square meter).

The models should be "market centered." That is, the valuer should seek to explain the values of the kinds of properties are most common ("base" or "norm" properties) and for which sales or rental data are most abundant and then to try to explain the values of the kinds of less common properties for which there is less market evidence through processes of interpolation and extrapolation. The concept of centered models is used in Denmark, Iceland, Sweden, parts of Canada and the United States, and other places.

Some countries have had success with carefully valuing a sample of benchmark properties (the term beacon is sometimes used) and valuing surrounding properties on the basis of the benchmark values. Benchmark properties were used in the recent revaluation of residential properties in Northern Ireland. In a variation on this theme, roughly similar properties can be grouped, and each property in a group can be assigned the same value (such as the "banded" values used in the United Kingdom's Council Tax).

When possible, multivariate models developed via multiple regression analysis generally provide superior results. In any case, it is unrealistic to require conventionally schooled valuers to have a hand in each valuation (a practical impossibility in some countries) instead of using computer-assisted mass valuation methods.

Inasmuch as actual market values are always changing, fair taxation requires that values be updated periodically. Thus, it is important to contemplate how to accomplish this in an affordable manner. Work-wise, there are two activities: monitoring market developments and monitoring physical changes to properties. These do not have to be done in tandem. The IAAO (2010) recommends that the interval between revaluations be short (ideally, annually) and be no longer than six years. Of the forty-eight countries for which data are available (Almy 2103), thirty revalue at least every five years. Hong Kong, Iceland, Netherlands, and parts of Canada and the United States revalue annually. In the U.S., the costs of annual revaluation programs on a per-property basis are approximately the same as non-annual revaluations (approximately $23 per property). In the Netherlands, annual costs per-property were reduced when annual revaluations were adopted because the costs of appeals were reduced. Lithuania has the capacity to revalue annually. In countries, such as Denmark and Sweden, a class of properties is revalued each year, so that all properties are revalued over a cycle of two or three years.

Collection system improvements

Common collection system weaknesses often include such practices as:

- Making *only* owners liable for taxation even when ownership is concealed—in essence, if the owner cannot be found, the property cannot be taxed. A solution would be to make occupants or users taxable when the owner is unknown. A more extreme solution commonly used in the U.S. is make the property itself taxable (so called "*in rem*" liability). If nobody pays the taxes, the property is confiscated.

- Requiring hand-delivery (personal service) of a tax bill before the liability for a tax is established instead of the liability accruing from the time the tax roll is published—the former makes it too easy to evade taxation (it is impossible to deliver a tax bill to a deceased owner of record, and it is difficult to deliver bills to absentee owners). Publishing the tax roll should be sufficient to establish liability for the tax. Delivering individual bills by any means should be seen as a service to make payment more convenient.

- Making it inconvenient to pay taxes by requiring taxpayers to pay in cash only at the collector's office instead allowing payments to be made through intermediaries, by check or credit card, and online.

- Failing to make any efforts to enforce collection from uncooperative taxpayers.

Communications

Successful property tax reforms address the concerns and needs of taxpayers. In addition to expected notices of assessments and tax obligations, strategies that have been successful include the following:

Making as much data public as possible. Data have not yet been compiled on data access. However, valuation data (including sales data) are public in Denmark, Estonia, Finland, France, Italy, Slovak Republic, Slovenia, and Sweden (Almy 2013). In contrast, some countries have policies that treat cadastral data as either confidential or available only to persons with recognized interests in specific properties (Federal Land Cadastre Service of Russia 2001, p. 8).

Using the Internet if possible. If the telecommunications infrastructure permits, publishing background information on the valuation agency's website has tended to increase the credibility of the valuation program. Hong Kong has long published property market statistics and analyses. Lithuania makes available details of its revaluations.

Monitoring Performance

Fittingly, Bahl and Norregaard emphasize the need for ongoing performance monitoring. Cadastral, valuation, and collection agencies should monitor their performance. Implicitly, an oversight agency should be responsible for continuously evaluating performance in the administration of a recurrent tax on immovable property. Such agencies are common in the decentralized property tax systems of Canada and the United States. Among unitary states, Netherlands and New Zealand are examples of systems with noteworthy supervisory agencies.

As previously discussed, there is a need to study fiscal capacity and effort, especially among decentralized property tax systems. See Walters 2011. There also is a need for basic information on numbers of properties; taxpayers, and other workload measures; productivity rates; and achievements so that resource requirements and performance can be better evaluated. Sometimes summary statistics on types of property are denominated in hectares rather than in numbers of properties or taxpayers. The complexities of administration make evaluating staffing needs difficult, but too often data are not

available on the number of people employed in property tax administration, making it impossible to develop simple properties per employee ratios. However, the OECD Forum on Tax Administration reports some useful data for tax systems as a whole (OECD 2011).

As to evaluating performance, the concepts of the coverage ratio, valuation ratio, and collection ratio provide a starting point. As mentioned, only is the calculation of the valuation ratio well understood.

Ratio studies

So-called "sales ratio studies" can be used to estimate the valuation ratio and to measure other aspects of valuation accuracy (IAAO 2013). A ratio study examines the relationships between valuations and available open-market, arm's-length sales. Thus a "sales ratio" in a ratio study simply is the ratio of the cadastral valuation to the sale price (if, say, a property is valued for tax purposes at €150,000, and it recently sold €200,000 is valued, the ratio is 0.75). In a ratio study, there are two main concerns: the *level of value* and the *uniformity* of values. Level of value is measured by a measure of central tendency. There are several aspects to uniformity. If the question is whether two or more groups of property (such as those classified differently for tax purposes) are valued uniformly, measures of central tendency are compared. If the question is whether all the properties in a group (class) are valued uniformly, a measure of variability is calculated. The *coefficient of dispersion* is the chief measure used. Sometimes, the concern is whether high-value properties and low-value properties are valued uniformly, other tests are used here. (The same concepts can be applied in studies of annual rental value assessments.) Use of ratio studies is increasing. Denmark, Iceland, Lithuania, Northern Ireland, and Sweden are among the countries that routinely evaluate valuation performance using ratio studies.

Although ratio studies focus on valuation, the methods of analysis also provide information on levels and patterns in effective property tax rates. If the tax on the property valued at €150,000 in the above example is nominally taxed at 1 percent, its effective tax rate is 0.75 percent. When there are sufficient sales to do the analysis, ratio studies can be used to evaluate the level and uniformity of effective property tax rates in an area-based property tax or another non-market value basis. Such an analysis could inform debates about whether to introduce a value-based property tax. Ultimately, the debate should be about the level and uniformity in effective property tax rates.

Procedural Audits

Agreed-upon ways of estimating coverage ratios have not been established. There are several potential areas of concern: First, has all land subject to valuation and taxation been recorded in the cadastral system

and has any land been recorded more than once? In principle, any gaps and overlaps in coverage could be discovered by using a GIS to compare a cadastral map layer to the base map layer. Second, have all buildings (and premises) subject to valuation and taxation been identified and recorded? Third, has all land and buildings been properly described with sufficient accuracy for valuation and tax classification purposes? Until recently, the only ways to answer these questions would be to make comprehensive field canvasses. Now, it is possible to detect most buildings (and some building features) by inspecting aerial map imagery, especially low-level oblique imagery. Reviews of data collection and maintenance procedures can also detect system strengths and weaknesses. But distilling what is known about coverage to a simple ratio has yet to be accomplished.

Estimation of a basic collection ratio is simpler: One merely has to compute the ratio between actual tax collections to the total of taxes due (either in the year they were due or when they were eventually paid). However, such a ratio reveals little about patterns in collection performance. Again, an in-depth review of procedures would be needed to identify the causes of problems. Of course, well-designed computer systems would allow reports that could pinpoint some issues.

Progress is being made in developing detailed diagnostic tools. Various IAAO publications identify best practices. The World Bank has developed materials for diagnosing revenue administration (Gil 2000), although property taxation is not expressly mentioned. Netherlands and New Zealand have established audit programs. Cape Town, South Africa, has commissioned external reviews of it valuation program.

Conclusions

We have attempted to identify issues to be considered in diagnosing the need for property tax reforms and for developing and communicating a reform proposal. In a paper such as this, it is impossible to convey everything that is involved in implementing a plan and in measuring success. Several general points seem noteworthy:

- Have a strategic vision but take a phased approach to build on early successes (Lithuania)
- Try to take advantage of reform efforts elsewhere—what lessons can be drawn?
- Consider the need for outside interventions—is financial assistance desirable? Can meaningful technical assistance be obtained? Can an external review validate plans and progress?
- Buttress reform proposals by referring to international standards (such as those of IAAO) and rankings (such as Doing Business, JLL, and others) to harness competitive spirits.

A key issue is how to motivate decision makers—how to bend political will to a reform agenda. Would-be reformers commonly bemoan a lack of political will. From a systems perspective, however, a lack of political will suggest that the case for a proposed change is weak and that the tax consequences of the change are not clear—or are all too clear, such as when the "losers" (those who will pay more) are politically stronger than the potential "winners." As Bahl (2009) points out, the costs of the proposed change may be deemed too great in relation to the benefits. Jan Brzeski also has mused about this issue. He has made two points: First, he says that he has never met a politician that craves being held accountable. Hence talk about increasing accountability may fall on deaf ears. Second, it is more effective to draw attention to the problems with the current situation than to tout the advantages of proposed reforms (negative ads work). Whatever the situation, appropriate data and agreed-upon evaluative metrics are needed.

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Tables

Table 1: Mass valuation and administrative cost benchmarks

Country	Number of Properties	Development Costs	Annual Operating Costs			Revaluation (Per Property)	Single Property Valuation (Per Property)
			Amount	Percent of Revenue	Per Property		
Lithuania			€660,000	0.6	€1		€100
Netherlands				0.9	€18		
Northern Ireland						€15	
Slovenia	6,500,000	€14,000,000					
Madrid						€13	
U.S.A. (Sample)	--			0.8	$23	$50	$350-$500

Table 2: Cross-tabulation of type of agency responsible for valuation by level of government responsible for valuation

| Type of Agency Responsible for Valuation	Level of Government Responsible for Valuation System				
	Central	Regional	Local	Mixed	Total
Cadastral Agency	13	0	1	3	17
Revenue or Tax Agency	24	4	14	8	50
Standalone Valuation Agency	7	0	3	4	14
Mixed	1	0	0	4	5
Total	45	4	18	19	86

Source: Almy 2013 with updates.

Figures

Figure 1: Summary of two property tax reform strategies

| Bahl	Norregaard
1) Do a thorough diagnostic of the existing system of property taxation, examining specifically what is working and what is not.	1) Make an in-depth diagnostic.
2) Adopt a "policy first" stance (administrative reform comes second).	2) Have a specific tax policy design
3) Choose the tax base that is best for the country.	
4) Restrict exemptions	
5) Question how best to provide property tax relief for the poor.	
6) Include identification of properties, valuation, recordkeeping, and collections in any administrative reform program.	3) Plan administrative reforms in detail
7) Bring all properties on to the tax roll.	
8) Concentrate administrative resources on improving the ratio of assessed to market value of property.	
10) Adopt any reasonable measures to raise collection rates.	
9) Remove or reduce the incentive to under declare the value of property transactions which results from the imposition of a property transfer tax.	4) Reduce or phase out property transfer taxes and replace them with a recurrent tax on property or with a capital gains tax
11) Monitor performance.	5) Develop a monitoring device

Source: Almy 2013 with updates.

Figure 2: Scatterplot of reliance on recurrent taxes on immovable property against perceived corruption with markers indicating World Bank income group
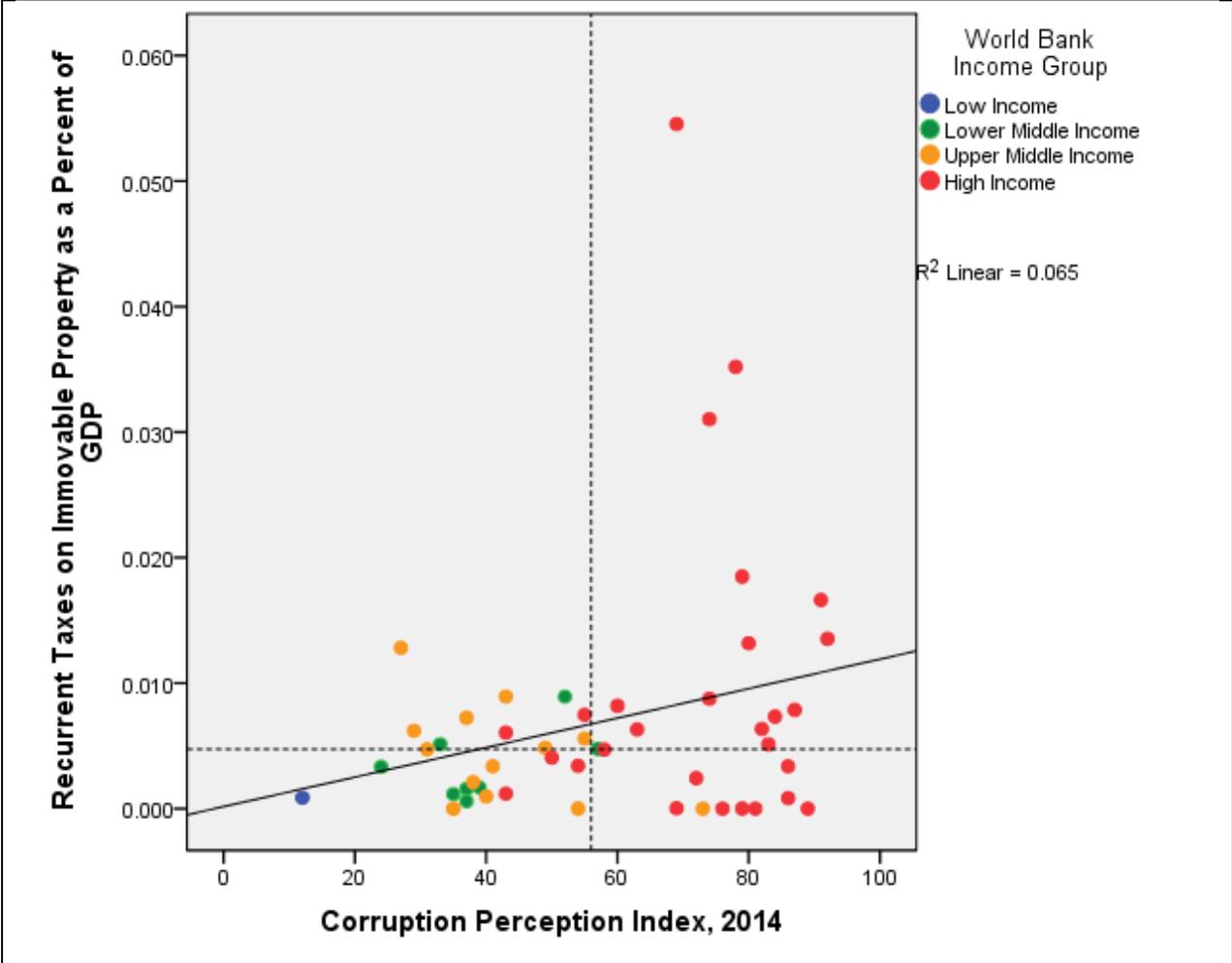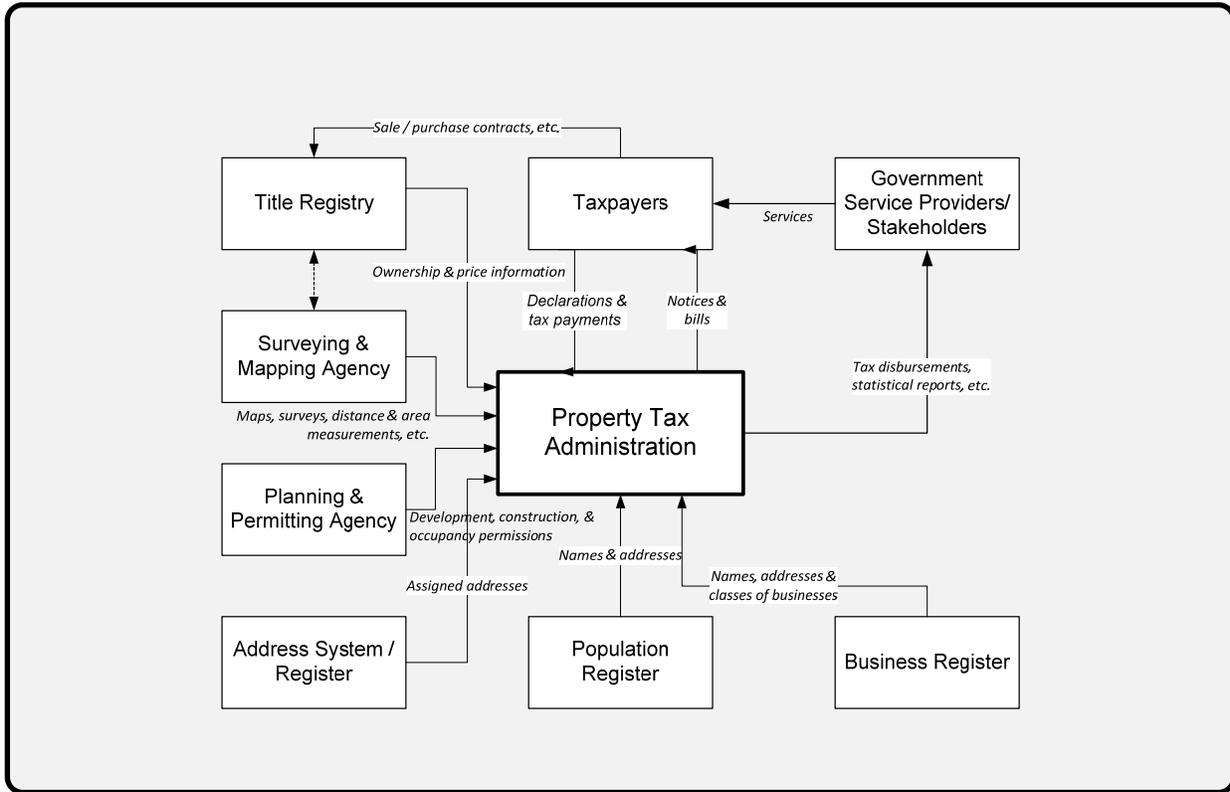
Source: Almy 2013 with updates.

Figure 3: Scatterplot of reliance on recurrent taxes on immovable property against selected real estate transparency factors with markers indicating World Bank income group
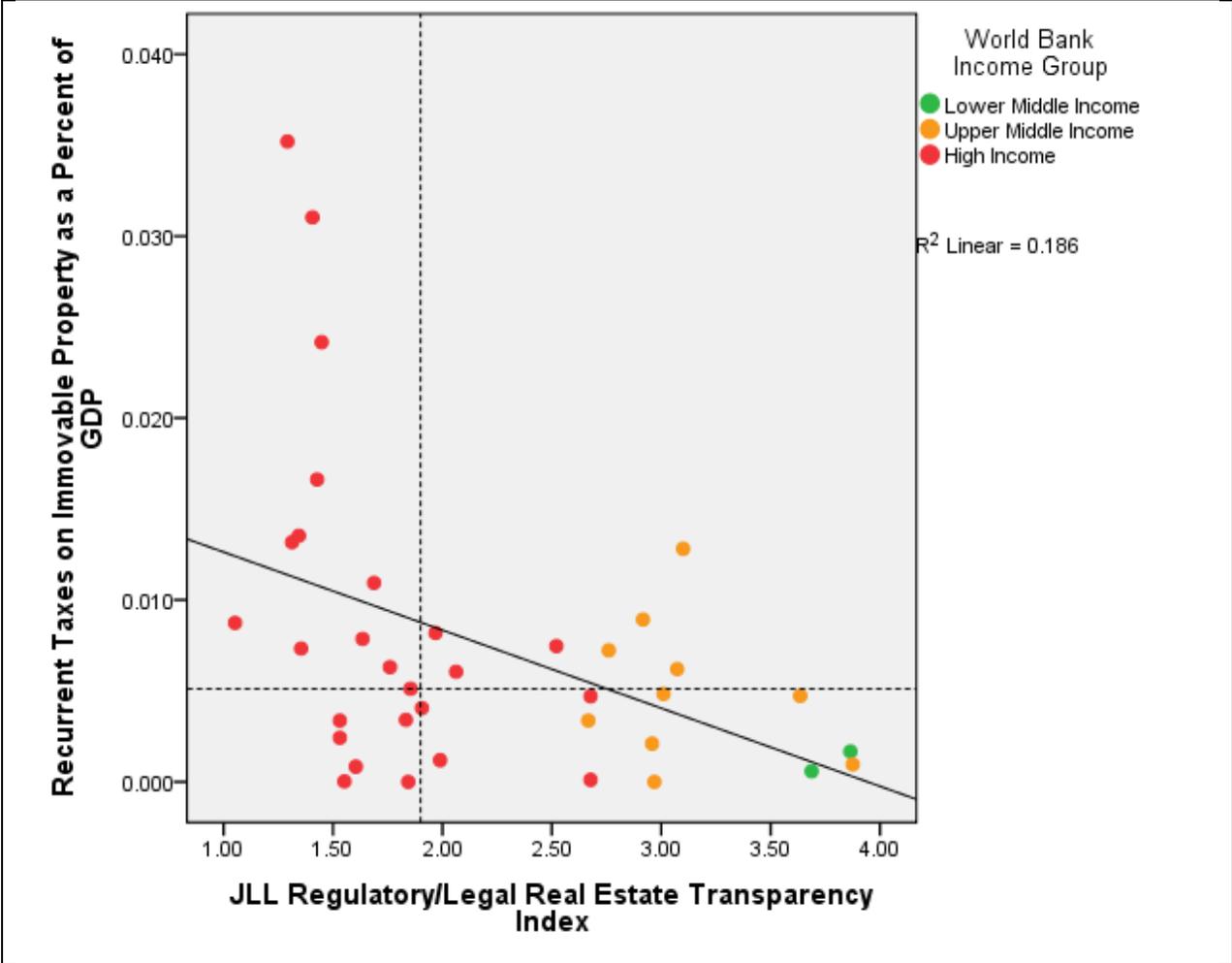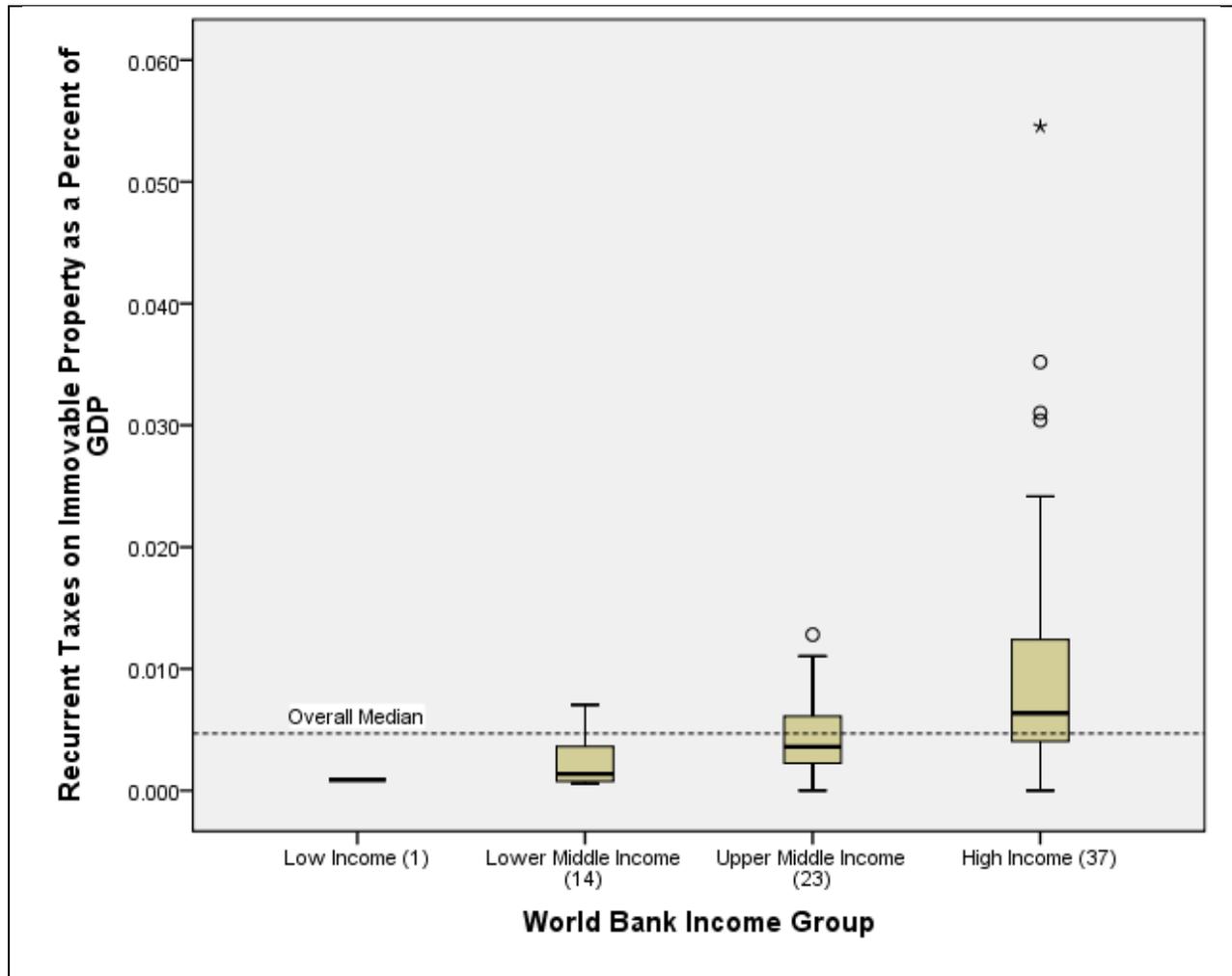

Source: Almy 2013 with updates.

Figure 4: Common interdependencies and information flows between the property tax system and other bodies and systems

Figure 5: Box plot of recurrent taxes on immovable property as a percent of GDP by World Bank income group

Source: Almy 2013 with updates.