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LOCAL PROPERTY TAXATION AND BENEFITS IN DEVELOPING COUNTRIES— OVERCOMING POLITICAL RESISTANCE?

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I. Introduction

While property taxation has existed since ancient times, and the taxation of land has been a mainstay of public finances through the Middle Ages, in both Europe and Asia, it has all but ceased to be a significant revenue source in any part of the world. Some of the reasons for the decline of the land tax, e.g., in the Indian sub-continent, reflect the political economy constraints that also bedevil the urban property tax. In this chapter on local taxation, our focus is largely on the property tax. The property tax has an increasingly important role to play in the development of an urban strategy that underpins sustainable growth (see Bahl and Linn, 2014), even if the challenges of design and implementation are formidable. This is not only linked to the establishment of local hard budget constraints, and accountability (Ambrosanio and Bordignon, 2006 and 2014), but also facilitates access to credit needed to finance a sustainable urbanization strategy.

The taxation of built-up land has historically been the backbone of local taxation in advanced countries, and its importance has grown with urbanization. The local focus facilitates the implementation of the benefit principle. However, it can also allow the implementation of the ability to pay principle, approximating an income tax.

The ability to pay aspect of the property tax is reflected in the traditional literature on the incidence, as well as the "newer" views (attributed to Mieszkowski, 1972). Much of the literature focuses on whether the tax is regressive (old view) or progressive (new view). However, both approaches neglect the fact that governments might use the revenues for the benefit of taxpayers. Under such circumstances the burden of the tax can be offset by the benefits generated.

The benefit view of property taxation has illustrious antecedents –-starting with John Stuart Mill. This is not necessarily in conflict with the ability to pay approach. Clearly, in a perfect tax-benefit framework there is no net burden. This would make the tax more appealing to taxpayers and politicians.

Reliance on the tax-benefit approach increases accountability of local politicians. There is discipline in requiring increases in the tax burden to be matched by increases in "non-onerous" expenditures.

Despite some successes in particular cases, such as Bogotá or Bangalore, the property tax has not worked very well in developing countries. There are many explanations offered by the literature on the poor utilization of the property tax in developing countries, based on limited capacity, and behavior of local politicians. Not all these explanations are fully convincing, as they are based on different and often conflicting assumptions. However, properly defined, it has considerable potential from Latin America to China, where urbanization is becoming a critical element in a strategy for sustainable growth.

As a matter of fact, the tax base—the value of built-up property with some corrections—is widely used in developing countries for earmarked levies, often covering a host of fees for garbage collection, street lighting, street cleaning and other local services. This is analogous to a trend in many developed countries, such as Italy, France and Portugal, for financing public services, including garbage collection and disposal.

The limited use of the property tax in developing countries may be linked to the relative small size of the tax base. Housing, being a basic need, absorbs a high share of income for a vast number of people in poor countries. Consequently property taxation is likely to be resisted, possibly more than in developed countries, However, even in the developed world increased resistance is also observed—e.g., Proposition 13 in the US. In the UK and Italy the tax was removed, just to be subsequently re-introduced albeit with a new name.

Increased revenue needs of local governments are also met through an expanded use of the income tax at the local level. Although the literature views this as an alternative to the property tax, reflecting the ability to pay principle that should fall more heavily on the rich. In fact, the use of income tax at the local level reflects the benefit approach. Consequently, local income and property taxes should be seen as complements rather than substitutes. In many countries, such as the US, both taxes are used at the local level.

The relevance of the property tax in the developing countries is enhanced from two sources. First, there is often a demand for a property tax from informal settlers (as a means of establishing residence rights). And secondly, often linked to the right to residence, the payment of the tax is often reflected as a criterion for access to credit. In addition, own-source revenues are needed to anchor access to financing by cities for urban infrastructure.

The paper is organized as follows. Section II focuses on the evolution of property taxation, starting from its emergence as a personal tax separated from the land tax. The Section III summarizes the main contributions of the literature on the property tax from John Stuart Mill to Charles Tiebout. A parallel is also drawn

with the personal income tax, and to its use within a benefit framework at the local level. The Section IV focuses on the explanations of the present limited role of property taxation in the developing countries. Section V is dedicated to some practical issues that might assist in reducing the incentives to evade and minimize collusion between tax administrators and taxpayers. These administrative considerations and institutions are major contributing factors underlying the poor performance of the tax in developing countries.

II. Trends in local taxation in developed and developing countries

Property taxes are among the oldest taxes in use. Traditionally, the revenue generated accrued to the central government. Local governments, when they existed, had a non-minimal role to play, and received a relatively small share.

1. Some early examples

Post-revolutionary France provided one of the first examples of a modern system of property taxation. The National Constituent Assembly in 1790 and the French Directory in 1798 set up four direct taxes that were the cornerstones of French tax policy until the comprehensive tax reform of the 1960s. These were: a) the property tax *(contribution foncière*), on all land; b) the *contribution mobilière*, a levy on all income not derived from commerce or land; c) the *patente*, which taxed the professions according to their external characteristics; and, d) a presumptive tax on the income of individuals (the *impôt sur les portes et fenêtres),* comparable to the British window tax. Local governments had the right to levy a surcharge on the four taxes (*centimes additionels*). The property tax was, and has remained, the pillar of local finances. After World War Two it ceased being a national tax. All three levels of subnational government in France (municipalities, departments and regions) now utilize this tax base.

A similar story can be told of the United States. Property taxes were levied in the colonies long before independence. For example Schwab (1890, p. 23) narrates the introduction of the property tax in the Colony of New York during the governorship of Pieter Stuyvesant.

> "Early in 1654 he and his Council adopt a resolution, which sets forth that they have not been able to find a better expedient or measure aside from the duties on merchandise, than to impose an honest and fair tax upon real property, as land, houses or lots, and milch cows or draught oxen."

Before the end of the 17th century, the pillars of the tax system of New England were the poll and the property taxes assessed and collected by the provinces with counties, towns and churches adding their own tax rates, anticipating the modern piggy-backs (Rabushka, 2010).

According to Wallis (2000) in 1902 property taxes comprised 73 percent of all revenues collected by local governments, 45 percent of state government revenues, 68 percent of combined state and local revenues, and 42 percent of combined federal, state, and local government revenues. However, with the introduction of the US Federal income tax in 1913, the property tax declined in importance. By 1992, property taxes comprised only 1.2 percent of state revenues, only 18 percent of combined state and local revenues, and 8 percent of all government revenues.

There are many reasons explaining why the property tax has been abandoned as a national levy, among them the fact that corporate and personal income taxation provided the central government with access to a wider and much more dynamic tax base. But there is also the fact that the property tax is better suited to local use because it allows the appropriate level of government to levy taxes according to the benefit principle.

Developing countries subject to colonial rule, often reflect pre-independence fiscal and tax institutions. Economic and political inequality contributed to shaping the structure of the colonial tax system. Moreover, colonial governments were mainly concerned with the extraction of resources from the colonized territories (Engerman and Sokoloff, 2005; Frankema, 2010). Both factors contributed to the prevalence of indirect taxes, especially tariffs over income taxes which would have fallen on the colonial elites. Indeed, regressive poll taxes—per person, or per household—prevailed over property taxes. The former were much easier to administer and allowed much heavier discrimination in favor of the colonizers, who owned most of the properties, but represented a tiny share of the population. The prevalence of skewed property ownership was, and remains to some extent, another impediment to the establishment of property taxes.

In British India (following the tradition from the Mughal period), land taxes were more than half of total tax revenues (about 5% of GDP) in 1901 (Dharma Kumar, 1982). However, the base collapsed following the Government of India Act 1935. This introduced elected governments at the state level, and assigned the property tax to the states, but reserved the modern instruments of taxation—income, excises and customs— to the center (controlled by the Crown). The political dynamics changed, as the elected representatives had no interest in taxing local elites. There was thus pressure on the Crown to use its instruments,

and to add to the unpopularity of the colonial power.[1] Thus, by independence in 1947, the land tax had fallen to 7% of total revenues. The dynamics of vested land interests, let loose in 1935, has been very hard to break in the independent successor republics of the raj.

The property tax also remains largely unexploited in most other developing countries, amounting to only about 0.6% of GDP on average, while they account for 2% in industrialized countries (Bahl and Martinez-Vazquez 2008; Bahl, et al., 2008)—see Table 1.

Table 1. Levels of and Trends in Property Tax Revenues (Percent of GDP)

	1970s	1980s	1990s	2000s
OECD countries	1.24	1.31	1.44	2.12
(number of countries)	(16)	(18)	(16)	(18)
Developing countries	0.42	0.36	0.42	0.60
(number of countries)	(20)	(27)	(23)	(29)

Source: Bahl and Martinez-Vazquez (2008).

2. Attractiveness of the property tax as a local tax

John Stuart Mill (1848) saw the application of the benefit principle at the local level more as a necessity, than as an opportunity:

> "It is an important principle, however, that taxes imposed by a local authority, being less amenable to publicity and discussion than the acts of the government, should always be special—laid on for some definite service, and not exceeding the expense actually incurred in rendering the service. Thus limited, it is desirable, whenever practicable, that the burthen should fall on those to whom the service is rendered; that the expense, for instance, of roads and bridges, should be defrayed by a toll on passengers and goods conveyed by them, thus dividing the cost between those who use them for pleasure or convenience, and the consumers of the goods which they enable to be brought to and from the

[1] The Crown had toyed with the income tax following the 1857 rebellion. However, Lord Curzon, the Viceroy in 1860, declared: " I would rather govern India with 40,000 British troops without an income tax, than govern it with 100,000 British troops with such a tax." (see Tomlinson, 2013). The linkage of the income tax with political representation was clearly recognized.

market at a diminished expense".

Alfred Marshall's (1890, 1920) distinction between "beneficial" and "onerous" rates places in positive terms the attractiveness of benefit taxes. Marshall uses two arguments. First, property taxes are beneficial when they are used to finance services that provide corresponding benefits. When services are not provided, the taxes become "onerous". Secondly, local governments are better suited to provide services of value because of their proximity to citizens and firms. National taxes are almost always onerous, because the national government tends not to link broad-based taxes to local public goods:

> "Onerous rates are those which yield no compensating benefit to the persons who pay them. An extreme case is that of rates devoted to paying interest on a loan incurred by a municipality for an enterprise that failed and has been abandoned. Onerous rates tend of course to drive away those persons on whom they would fall…On the other hand beneficial or remunerative rates are those spent on lighting, draining, and other purposes; so as to supply the people who pay the rates with certain necessaries, comforts and luxuries of life, which can be provided by the local authority more cheaply than in any other way"…..
>
> "Services which are preponderantly national in character" are "generally onerous"; while "those which are preponderantly local in character generally confer upon rate-payers a direct and peculiar benefit more or less commensurate with the burden".[2]

The modern literature mostly shares the view of the correspondence between local governments and benefits. In his work on the history of the property tax in the US, Wallis (2010) explains the almost exclusive local application of the property tax on the grounds of the benefit principle:

> "In a nutshell, I believe that the property tax is used by local governments, and not used by state and national governments, because local governments are better able to coordinate taxpayers with the benefits of public services financed by those taxes. All governments would like to levy "benefit" taxes: taxes paid by the people who benefit directly from the government services the taxes finance. Local governments are consistently able to levy property taxes that tax the benefits they provide to their citizens."

Wallis dismisses the other argument typically made by the literature to explain

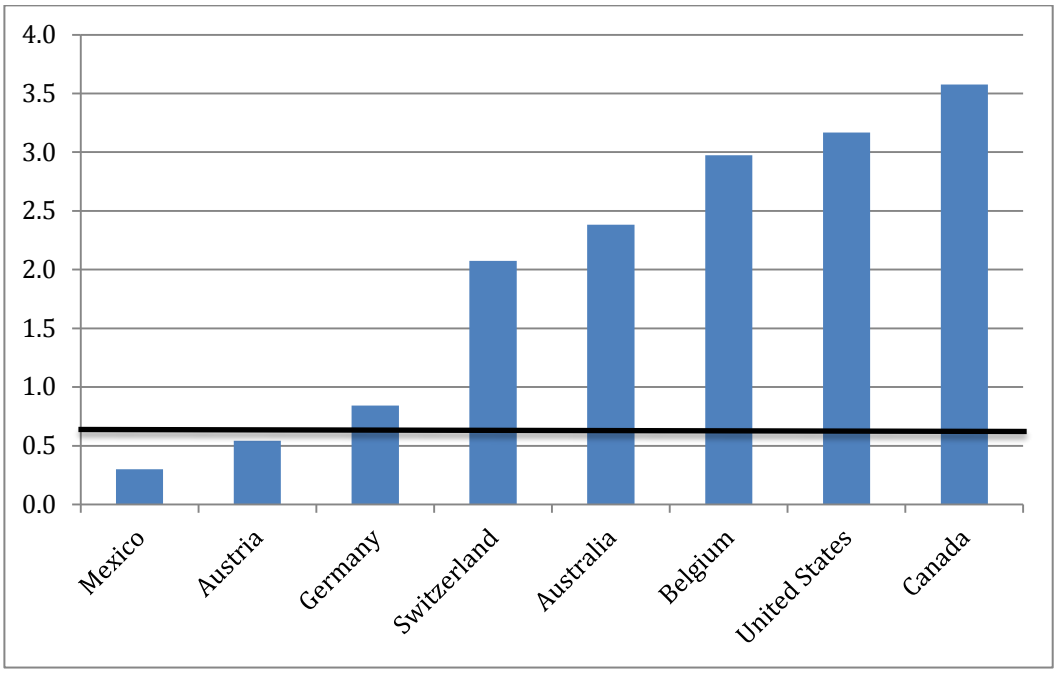
[2] Marshall, Ibid.

the popularity of the property tax with local governments: because property is immobile, taxing it allows local governments to avoid deadweight costs. If this were the main virtue: "then we would expect to see property taxes used by all the three levels of government, albeit perhaps more intensely by smaller jurisdictions." [3]

Local governments in the US perhaps stretched their reliance on the property tax too far, leading to widespread tax revolts in the 1970's that began in California in reaction to Proposition 13 and spread to other states. The imposition of caps on revaluation of properties and on the increase of tax rates brought a structural change in the financing of states and local government, making them much more reliant on the (especially personal) income tax.

Collections of taxes on property for selected OECD countries are shown in Figure 1.

Figure 1 Taxes on property in the federal OECD countries as percentage of GDP, 2010



Note: The black line marks the average in developing countries.
Source: OECD Statistics (available at: http://www.oecd-ilibrary.org/taxation/taxes-on-property_20758510-table7).

[3] Wallis op, cit. p. 29, online edition.

III. An analytical framework for assessing local property taxes

1. Capitalization of property taxes

The introduction of a property tax, or an increase of its burden, will reduce the value of the property by the discounted stream of all future tax payments. This is the standard result from the "new" literature on the capitalization of taxes on assets. The incidence of the tax is on owners of property, although its exact working will vary according to specific assumptions made about mobility of taxpayers, the timeframe considered (short term or long term) and other factors (see Wildasin (1987) and Zodrow, (2006) for comprehensive reviews of the literature).

The reduction in property values will prompt reactions by taxpayers: protests (on the streets, with letters to media, etc.); voting against the incumbent (competition without mobility); and evasion of the tax and creation of informal, illegal settlements. These reactions can be activated by a tax levied at any level of government, although the impact will vary with the level of the levying jurisdiction. At the local level, the competition is potentially much higher, basically because there may also be voting with one's feet (competition *via* mobility) as we illustrate below.[4]

The choice of the reaction function depends on the relative cost of each alternative. This is not analyzed here.

2. Capitalization of services

Negative reactions to a property tax would induce the local government to provide services that offset the visible tax burden. Such services should increase the value of the property; in other words, through capitalization. More precisely, the increase in value/capitalization requires satisfying a few conditions:

1. *The service has to provide a positive utility to taxpayers.* This makes the property tax suitable to finance the provision of a wide range of services, not necessarily related to housing. While providing primary education in a jurisdiction largely populated by elderly people may not lead to the closest linkage—although the elderly may place a value on the education of their grandchildren—the provision of geriatric care may increase the linkage between

[4] Voting with one's feet includes the creation of informal and legal settlements, as in the experience of the Community Associations in the US (Nelson, 2008).

taxation and benefits received.

2. *The service has to provide benefits over a specific area***.** With service provided in a specific point, the utility of the benefit decreases with distance from the point of provision. Thus, both the taxes and the services should be provided at the local level, where the connection between the tax and benefits is more perceptible.

3. *Individuals should be able to move cost-free* to the area where the service is provided. If the move is costly, the cost reduces the value of the benefits correspondingly

4. *The number of individuals who demand the service must exceed the number of individuals who can live in the catchment area for the service provision*.

We take as an example a decision to build a new underground station in a metropolitan area to illustrate the impact of service provision on property values, and hence on capitalization. It is important to note that total capitalization of service benefits will not necessarily correspond to the total (change of) tax. Perfect correspondence between tax and service capitalization would occur only if:

a. The cost of building and running the underground station is exactly equal to the benefit received by all individuals living in the area; and
b. The total property tax collected from all individuals exactly covers the cost of the underground station.

These two conditions, in turn, require quite stringent assumptions about the behavior of government. First, the goal of government should be to maximize the total property value in its jurisdiction. Consequently, the government carries out new projects and policies up to the point where the marginal increase of property valuation is equal to its marginal cost. Second, the government should have all the necessary information about the cost of projects and policies it wishes to implement and, with clearly more difficulty, it should have all the information about the potential accretion of benefits to each property owner.

- If building the underground reduces the cost of transportation and may be assumed to provide utility to a (large) group of individuals: condition 1 above is satisfied.

- If utility decreases with distance from the station, allowing the identification of an area that benefits from it: condition 2 is satisfied.

- If underground users are ready to pay a higher price for housing in the area than for a dwelling with similar characteristics without easy access to the underground: condition 3 is satisfied.

- If demand exceeds the available housing in the area, bids up property prices, and determines capitalization: condition 4 is satisfied.

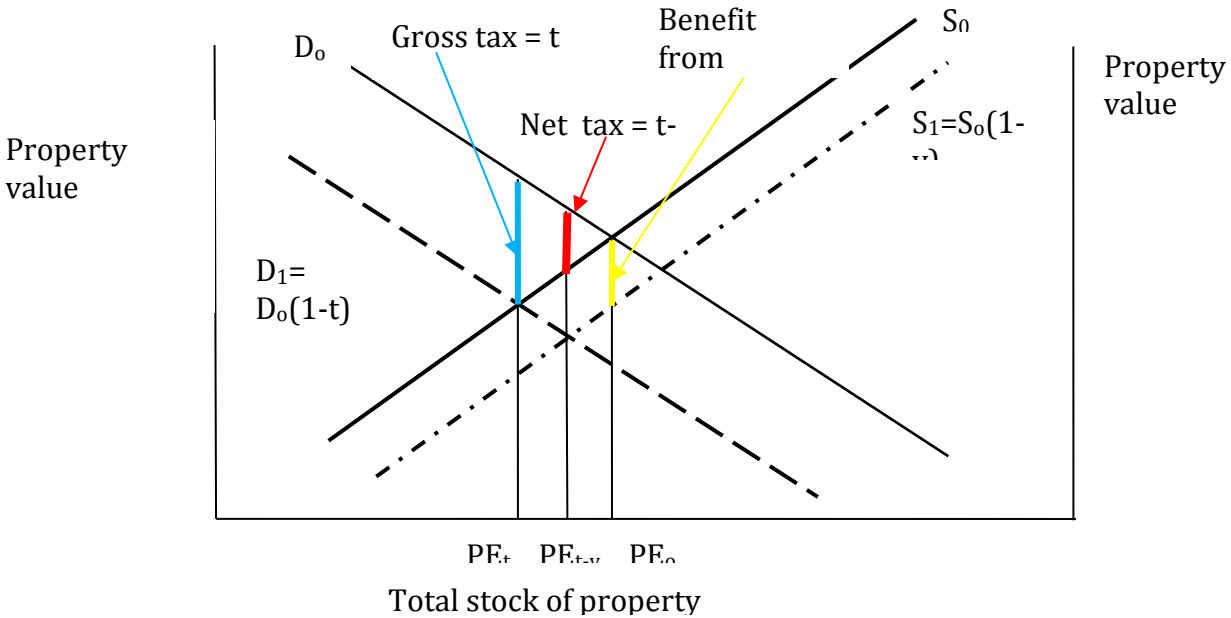
The capitalization of the property tax and the choice between staying in the same jurisdiction and moving to another (or moving from the formal to the informal sector) are illustrated in Figure 2.

The vertical axes in Figure 2 report value of property (the tax base). The left-hand side refers alternatively to the present jurisdiction or to the formal sector and the right-hand side to the other jurisdictions or alternatively to the informal sector. The horizontal axis shows the total stock of property. The stock is assumed to be fixed and is distributed between the present and the other jurisdictions according to individuals' choices.

The fixity assumption about the total stock is crucial for determining the tax incidence: the tax is borne by the *de jure* taxpayers with no shifting to others. D_o is the demand curve for houses before the tax. D_1 is the after tax demand. S_o is the supply curve in absence of benefits from the expenditure: B_1 is the supply curve after the benefits. The distance between the two curves, *v,* shows the amount of benefits of expenditure polices as evaluated by the taxpayers.

Without taxes and expenditures, the intersection of D_o with S_o determines the allocation of housing between the present and other jurisdictions: PE_o in the figure. With the tax and no benefits from expenditure, the allocation between the two sectors, PE_t, is determined by the intersection between D_i and S_o. Housing moves from the present to other jurisdictions. When the tax is used to finance expenditure that benefits taxpayers, the supply curve shifts to S_1, where the benefits are evaluated at *v,* which is smaller than *t.* The new allocation between the two sectors is $PE_{t\text{-}v}$. The present jurisdiction recovers ground at the expense of other jurisdictions, but not completely in this purely illustrative example.

Figure 2. Impact of property taxation on the allocation of assets



Stressing the crucial role of the link between taxation and service provision is another way of illustrating the crucial role of the correspondence between own-source revenues at the margin and benefits provided. There are more incentives for local governments to benefit from the link than in the case of centralized or regional provision, and where broader cross-jurisdictional issues are expected to predominate.

3. Local competition to promote capitalization (and accountability)

There is a large literature on the capitalization on the impact of local policies starting with Nordhaus and Tobin (1972) and followed immediately, *inter alia*, by Liu (1976), Rosen (1979) and Roback (1982). This literature started with a very different objective: ranking urban areas for their quality of life and aimed at identifying market prices for amenities serving as weights in the construction of the rankings. Prices were calculated as the impact of capitalization of amenities on property rents and wages. Pure amenities are non-produced public goods, or locational free goods, and as such they have no explicit price. The extension of the impact to taxes and benefits from policies is immediate and has been taken into account in the literature: Beeson, Shore-Sheppard, and Briem (2000); Linneman, (1978); Schaltegger, Somogyi, Sturm (2011); William Stull and Judith Stull, (1991).

Obviously, public goods also influence the quality of life. They are non-pure amenities and have an explicit tax price. However, public goods may not be fully, or more than fully priced. In other words, the benefits can be lower or greater than the tax, leading to a smaller or a larger comprehensive income. They will hence be reflected in wages. At the same time, taxes on wages will also have an impact on property values. This is because labor and housing markets are interconnected.

Competition through mobility is the mechanism for capitalization. To illustrate, we build on Roback's (1982) basic model by substituting a natural amenity with a produced amenity. The model considers mobility of capital and labor and is useful to illustrate the both the interaction and the similarity between property and labor (income) taxation at the local level.

Let's imagine a set of local jurisdictions that provide a produced amenity, resulting from the difference between the benefits of a local good financed with a combination of local levies (in this basic model we do not need to specify taxes). Local jurisdictions differ only according to the produced amenity.

There are firms and workers in a general equilibrium framework where capital and labor are completely mobile between jurisdictions. Consequently, the cost of changing residence for workers is set to zero. Commuting is excluded by prohibitive transportation costs. The quantity of land, L, is fixed within jurisdictions, but mobile between uses. When the distribution of workers and firms across jurisdictions is in equilibrium, differences in wages and in rental value are functions of the produced amenity.

The representative worker-resident consumes a composite traded good X, land services of r, and the so-called amenity A. She supplies a unit of labor receiving a wage w, and her problem is to choose the quantities of x and l_c to be consumed, given a level of A, subject to the budget constraint.

$$Max\ U(x, l_c, A) \qquad (1)$$

$$\text{Subject to } w = x + \mathrm{r}l_c.$$

The indirect utility function corresponding to (1) may be written for an equilibrium level as

$$V(w, r, A) = j \qquad (2)$$

In equilibrium, the utility of workers is equalized in all local jurisdictions through adjustment of wages and rent.

There is also a sector of firms, that produce X with constant returns to scale using land l_p and workers, N, according to the production function:

$$X = f(l_p, N, A) \qquad (3)$$

Firms maximize profits by minimizing cost subject to the production function. Given the assumption of constant returns to scale, only unit cost functions can be considered. The equilibrium condition is that units cost equals price, assumed to be unity:

$$C(w, r, A) = 1 \qquad (4)$$

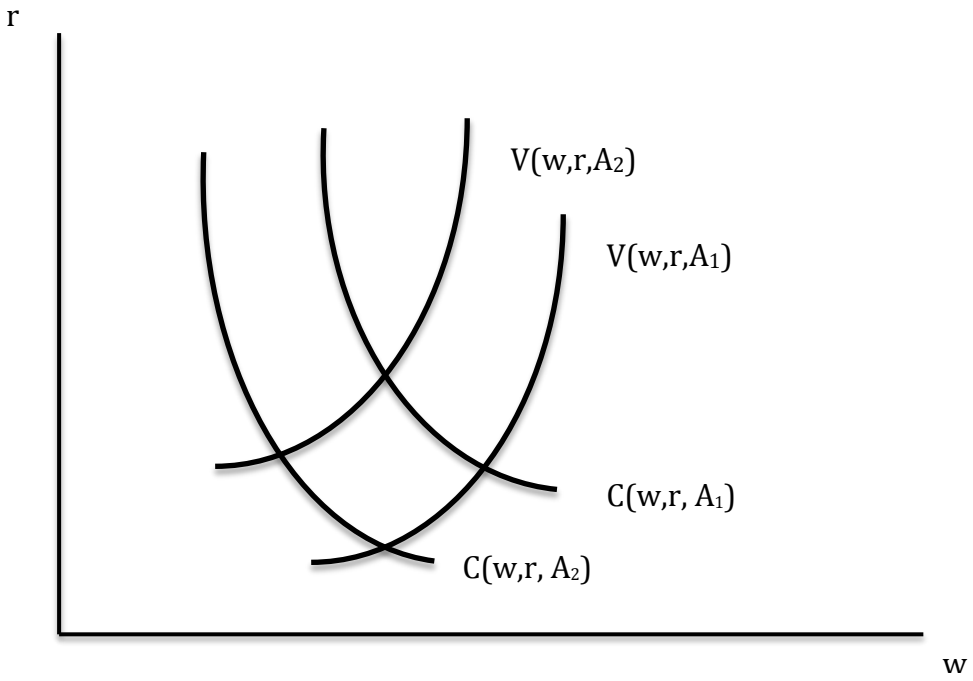
Under circumstances where the condition does not apply, firms move to more profitable jurisdictions.

Wages and rents increase cost, while the produced amenity can have a positive or negative impact on cost—building roads decreases congestion and reduces costs—while a program of downtown renovation can restrict traffic, increasing congestion and cost.

Figure 3 presents the impact of the produced amenity on wages and rents. Upward moving V curves show the combinations of wage and rent that satisfy (2) for given levels of the produced amenity. There are two levels of the latter with (2) > (1), meaning that with (2) the difference between the benefits of policy and the burden of taxes is higher. The two levels may correspond to two different local jurisdictions or two different results in the same jurisdiction. The basic message is that if a jurisdiction produces fewer amenities than the other, this will negatively impact utility, inducing workers to move to the jurisdiction that provides more amenities. With a higher provision of amenities, A2, workers will pay higher rents at similar levels of wage to benefit from the higher amenity.

Downward sloping curves are, in turn, a combination of wages and rent that equalize unit costs of production for a given level of produced amenity. If the produced amenity is positive for workers, but negative for firms, shown in the Figure 3, factor prices adjust downwards to equalize cost between jurisdictions, or the same jurisdiction over time. The intersection of curves provides the equilibrium values of factor prices.

Figure 3.
Capitalization of local policies through mobility



A2>A1

The incentive for a government to establish the link between a tax and service delivery works more strongly for local than for national or regional governments, not only because of mobility based competition at the local level, but also for additional reasons. Reactions and protests tend to be more common at the local level (although national demonstrations may be more effective, as seen in the Arab Spring).

Furthermore, competition without mobility works better at the local level because of the information advantages. Voting against the incumbent has a lower probability to succeed in changing policies in a national than in a local setting (Seabright, 1996). Other kinds of protesting, such as directing the media against the tax, may also be more costly to execute at the national level (although see Salmon, 2011, for increasing evidence on the ease of information flows and competition across countries).

The use of personal income taxation for financing subnational government, particularly at the lowest level, has been relatively neglected in practice. However, this is rapidly changing as local governments in many industrial countries are beginning to make wider use of a local income tax. There is a large literature that compares the virtues of the major taxes as subnational financing instruments. Bird (2014), Martinez-Vazquez (2014) and Ambrosanio and Bordignon (2014) provide insightful reviews of this literature.

In general, the normative literature starting with Lindahl (1919) and Musgrave (1938) has stressed the benefit principle as the guiding criterion for the assignment of taxes to local governments. To some extent, John Stuart Mill's view—where the benefit principle is needed to constrain local governments, limiting their possibility to do misdeeds—prevails in the literature over Marshall's view that the benefit principle is a vehicle for improving citizens' welfare. In the perspective of the benefit as a necessity, rather than an asset, national policy considerations are mixed with those relating to subnational governments and, in the end, the former prevail when it comes to the local use of the income tax. To take an example, since personal income taxation, particularly with a progressive tax rate schedule, is well suited for stabilization purposes, it has to be assigned to the central government and, only when other alternatives are not available, to subnational levels, but only to the highest possible level, such as states, regions, or provinces.

The public choice approach also emphasizes the importance of the benefit principle, taking into account the fact that tax policy is the result of a political process and that political costs are associated with the tax system. The political costs are often ignored in economic analysis of taxation. There is a cost to

government of legislating tax policy and there is a cost to those who want to influence tax policy to their advantage (through lobbying and guarding against changes). This political cost of the tax system presents a welfare loss or excess burden because it "causes people to substitute away from whatever is being taxed" (Holcombe, 1998: 360). Efficiency in terms of political cost considerations is assured when the benefit principle applies (Wicksell, 1896). This is because, as Holcombe (1998) explains, if the benefit principle does not apply, people will reveal preferences for receiving benefits paid for by others and against paying taxes for benefits received by others. This will create conflict between those who stand to benefit from the service and those who do not. The greater the match (i.e., the more the tax corresponds to the benefit principle), the smaller the political cost.

Carl Shoup (1983) provides a consideration of the perspective of local governments. Shoup uses a number of clearly relevant criteria for checking the merits and the disadvantages of three sets of taxes: property, income and sales taxation. Some criteria, such as impact on foreign trade, or reduction of wealth and income inequality are applicable only at the national level. Some are relevant for both the national and the local levels, such as promotion of growth, reduction and management of risks, continuity, impersonality, uniformity of compliance costs, and excess burden. However, no criterion specific to local government, such as varying costs of collection across jurisdictions, is mentioned.

There is a positive, although much smaller, literature trying to explain the limited subnational use of the personal income taxes. In one of the most important contributions to this literature, Nechiba (1996) explains why the property tax is still the pillar of local government revenues despite its growing unpopularity with taxpayers. Essentially, this is due to the difference in the mobility of the tax bases. In his model, both property and income taxes are levied to finance a local public good. Local officials are basically tax maximizers and there is no specification of the benefits deriving from the use of collections, except that they are used to finance a local public good. It could be even a donation to the external world with no immediate impact on the utility of taxpayers. In this context, taxes are chosen on the basis of reactions by taxpayers, and the one with the least loss of revenue is chosen.

Table 2 presents our interpretation of Nechyba's arguments and conclusions. P_i is the value of property of individual I in the jurisdiction of reference, while I_i is the income of individual i and m is the average of the concerned jurisdiction, that increases its reliance alternatively on the property or the income tax without increasing total burden and expenditure.

Table 2. Impact on taxpayers' choices and revenue collections of alternative reliance on property and income tax

Impact	Reliance on Property tax	Reliance on Income tax
Tax burden	Penalizes those with $I_i/P_i < m$. The tax reduces P value.	Penalizes those with $I_i/P_i > m$. Reduces I.
Tax payers reaction	May move to another jurisdiction, or to a less valued property in the same jurisdiction.	May move to another jurisdiction, or reduce work. if staying in the same jurisdiction.
Impact on revenue	Depends on re-settling costs and on supply of housing, also and on migration of residents from other jurisdictions. Tax base does not disappear altogether: property cannot be moved. Loss of revenue derives from reduction of property values.	Depends on mobility costs and on supply of labour. With move to another jurisdiction whole tax base disappears. If supply is fixed and no move is undertaken, there is no loss of revenue.

An increase in the property tax (the central column in Table 2) puts the burden on individuals with relatively more property than income compared to the average. Note that this does not mean that they are the richer. Their likely reactions, depending on resettling costs, is to move to another jurisdiction, or to another property with lower value in the same jurisdiction. If one of these moves takes place, it will depress housing values. The net impact also depends on what other jurisdictions do at the same time. Collections of revenue will decrease because of the reduction of values, but not because of disappearance of housing.

Reliance on the income tax (column at the right) puts the burden on individuals with relatively more income than property and can induce them to move to other jurisdictions, or to reduce work effort (which is the equivalent of the move to another property in the same jurisdiction in the case of the property tax). The impact on revenue will depend on mobility costs and the rigidity of labor supply. The basic difference is that, when moving to other jurisdictions, individuals will take their entire income with them. This is enough to explain the strong local preference for and the prevalence of the property tax - according to Nechyba - over an income tax.

The impact of taxes on behavior and revenue obviously changes when benefits of the associated expenditures are taken into consideration. The analysis above on the capitalization of tax and benefits can be repeated with reference to the income tax. The immediate effect of a tax on labor is to reduce the net wage received. This in turn will induce wage earners to react by reducing working time and to protest, e.g., by moving into the informal sector or to another jurisdiction, and the like. If the reactions and protests do not produce results, the wage will be reduced, *ceteris paribus*, during the life of the worker. The tax is hence capitalized in his life earnings. Services that benefit wage earners have the reverse effect, compensating the burden of taxes. Basically, the utility derived from the goods and services received and evaluated individually may compensate for the loss of utility from the tax in the same way as it operates with the property tax.

4. Property taxes, benefits and informality

Both labor and housing markets are subject to informal activities. The two informal markets are characterized by a limited overlap. Owners of informal dwellings are not necessarily informal workers. And formal workers may own or reside in informal dwellings.

A link between the two types of informality is poverty or exclusion. Poor informal settlements may produce poor informal workers because of exclusion: *vecindario* effect (Alvarez Rivadulla, 2009). This observation does not contradict, on the other hand, the fact that informal dwellers (also defined as those who do not pay taxes on their property) and informal workers (who do not pay taxes on their incomes) are not necessarily (all) poor. In fact, they may be among the elite in developing countries.

From the tax side, there seems to be only a weak relationship between income and property. However, when levied at the local level, the property tax and the income tax provoke similar reactions by taxpayers and force local governments to react by providing (better) services. Whether informality is increased or reduced will depend on a number of factors.

Formal housing is, in principle, subject to property taxes. According to a prevailing view (Smolka and De Cesare, 2010), property taxes are not the main source of the informality in housing. This is largely because the payment of the tax is associated with the provision of services. Further, building permits and, more importantly, registration of property titles are essential to have property-ownership recognized. Hence, this view argues that property taxes contribute to reducing informality by operating on two distinct fronts. First, some dwellers are willing to pay the tax to strengthen their claims to property titles. Second, and this is a one-time measure, the introduction and/or increase of the property

tax can push down the prices of land and property, facilitating the acquisition of legal/formal property. This second argument holds, however, when land and property are available for sale, which is precisely the missing element in countries with a huge presence of residential informality, and where property titles are not clearly defined (as may also be the case in China).

The argument that property taxes contribute to the reduction of informality is likely to be partly correct, but refers to a situation, frequent in developing countries, with large migration from the countryside to the cities. In this case, some individuals have practically no choice between formal and informal housing. The supply of formal housing simply does not meet the demand, with the consequence that a growing population, not only migrants, has to rely on the informal market.

Under ordinary conditions - meaning that the supply of formal housing is at least as elastic as the supply of informal housing - home owners (if they are the *de jure* taxpayers) may not be willing to pay the tax if there is no counterpart in terms of services provided. Property owners will evade, and shift to the informal sector. In some countries, the proximity of the electorate and local administrations may also facilitate special deals regarding valuation or exemptions that could be construed as "rent-seeking." This may be particularly pronounced in countries, that also have one-term limits on local officials, typically the case in Latin America, contributing to the poor performance of the tax.

IV. Why does the property tax perform poorly in the developing world?

Why do property tax collections remain low and the base relatively unexploited in developing countries? As discussed above, there is great political resistance against the tax even in the developed countries. We shall argue that the developed country "institutional model" where all the "administrative" components are concentrated at the local level facilitate collusion between the tax collectors and the taxpayers, and typically result in "rent-seeking" outcomes. This is particularly true of the management of the cadaster as well as the valuation of the properties.

In many countries property tax rates are set at higher levels of government (at either the national or intermediate, state or provincial level), while the revenues accrue to municipalities or are even shared with other levels of government. There is then little accountability for the tax at the local level (see Ambrosanio and Bordignon 2006), or possibility of linkage with service delivery. The tax

becomes “onerous” in the sense defined above, and the burdens are mitigated, especially for the friends and relatives of the local politicians, through manipulation of exemptions and differential application of the rules.

Being able to reduce the tax for “preferred” taxpayers and decide on its enforcement can give local government officials considerable power. For instance, tax exemptions are commonly used as concessions to influence groups. In the more altruistic cases, these exemptions are used to motivate actions or reach goals that benefit the public or protect the vulnerable**.** In Saltillo, Mexico, for instance, the local government grants discounts to firms if they create employment: the more labor is employed, the greater the discount. But in other cases, they may be used for patronage or personal favors. Promising to free residents from the property tax burden is also a popular campaign pledge for winning elections, and is relatively costless if there is little impact on service delivery (e.g., facilitated by higher levels meeting deficits or if the cost of borrowing is not properly accounted for (see Ahmad, 2014).

Even when local governments make an attempt to raise tax revenues through more effective administration (e.g., up-to-date valuations of properties) their efforts may be blocked by higher levels of government that control the rate setting powers. While higher level oversight protects local residents from being overburdened by (numerous arbitrary) taxes, a problem encountered in rural China among other places (See Bernstein and Lü (2008) and Bräutigam et al, 2008), it has been found that such efforts are also sometimes blocked for political reasons, i.e., to sabotage the efforts of an opposition party or specific leader in power at the local level. And even powerful national figures live in localities, and may not be inclined to pay local taxes.

In Mexico, for instance, the state congress needs to approve any local government changes to rates or introduction to new taxes. In one Mexican municipality (Aguascalientes, Aguascalientes), the legal basis for a cadastral modernization was only approved by the state once the party of the local municipality became aligned with the party of the state government, after at least eight years of failed attempts and delays. In another municipality (La Paz, Baja California Sur), a municipal proposal to update tariffs was left pending a decision by the state congress for over a year until the municipality finally withdrew it in frustration. The proposal was simply left unattended to by the state. Similarly, in the state of Jalisco, the state congress regularly rejected requests to update the cadastre by opposition municipalities while approving those of its own party. Legal remedies to bypass ungrounded decisions or unduly delays exist, but these are costly and rarely utilized.

It is typically far easier and preferable for local governments to receive revenues from common pool resources (or transfers from higher levels of government) than to inconvenience the electorate by collecting a highly visible tax, such as the property tax. Indeed, when the local governments are able to access "gap-filling" transfers to meet deficits, the resulting "fiscal dentistry" damages incentives to impose "onerous" local taxes.

In sum, local tax collection efforts are likely to be inhibited and local fiscal responsibility vitiated through:

(a) receiving an abundance of intergovernmental transfers, especially if these are of the "gap-filling" variety;

(b) easily acquiring credit in the financial markets;

(c) passing on liabilities to the next administration through cash-based accounting that does not recognize the liabilities until the payments are due—likely after the one-term constraints in many developing countries; and

(d) bail-outs by the central government.

It should be emphasized that the easy access to gap-filling transfers to meet deficits overrides any legal prohibitions against bailouts, and would offset any fiscal responsibility legislation.

1. Administration and institutions

The typical administrative functions include maintaining the cadaster and registration for the tax; valuation functions, constituting the main elements of the assessment; together with bill delivery, collection and enforcement. Maintaining the cadaster and valuation are two of the most difficult components of the administration of the property tax.

a. Cadaster

The property tax base typically comprises the residential and commercial land and permanent structures built on it. The value of the land and improvements are usually determined in a cadaster and form the base on which the tax rate is applied. The cadaster is the system of property registry of a specific territorial jurisdiction; it specifies the location, physical characteristics, dimensions, value and land use of land plots. Furthermore, it identifies ownership, possession and other rights and obligations connected to the plots, among other data. This information is used to assign values to land parcels and improvements and to assess the property tax burden of the taxpayer.

A common complaint, in both developing and developed countries alike, is that cadastral information is outdated and flawed. The valuations that form the basis for the property tax tend to be historical purchase prices declared (often a fraction of the actual transaction prices). The below-market valuations also open up the possibility of "collusion" between taxpayers and administrators. "Hidden" or omitted land plots and new constructions that do not show up in the cadaster are a major loss of potential property tax revenues. This is particularly relevant for the sprawling urban municipalities in many developing countries that have experienced high levels of immigration and construction. A recent cadastral modernization program in Carmen de Campeche, Mexico resulted in a discovery that there were 54% additional land parcels (the total increased from 53,713 to 82,890 parcels). Taxing these additional parcels, which were formerly left out of the tax base, contributed to a rise of 120 % in tax revenues from 25.8 million pesos in 2008 to 67.0 million pesos in 2011 (Banobras, 2012).

Major cadastral updates require fieldwork, surveys, valuation, and organized record-keeping (Bahl and Bird, 2008b). This is best achieved with sophisticated tools, technology, and know-how, which in turn require a capable staff with regular and specialized training (Morones Hernandez, 2012: 84). Yet such updates are very seldom done. Most local governments (particularly the smaller or the rural jurisdictions) do not have the technical or human capacity, or the financial resources available for efficient cadastral management. They are neither equipped to manage and update cadastral information nor to administer and pursue property tax payments. These problems are compounded in many developing countries by the fact that records on property sales are hard to come by, there is a relatively larger diversity of land tenure and occupation patterns that make valuations difficult. High inequality and widespread informal land occupation also provide challenges to the universality and equity of the tax (Da Cesare, 2012). Local "governments in developing countries, according to Bahl et al. (2008), "simply are unable to administer a well-functioning property tax".

The reasons why these issues have been neglected are to some degree due to a lack of resources, but are often also political. Even when monetary incentives are provided to local governments to update their cadastres, local governments often refuse. Despite financial assistance, a significant update still generally involves a large upfront investment, the benefits of which are only reaped several years afterwards. In a context of electoral competition and high political turnover, there is little incentive for a government to invest resources, time and energy into a project that it will not benefit from before the next elections, while its successors may.

As explained in Ahmad (2014), the cadaster does not have to be administered at the local level, as the essence of accountability is the setting of the rate of the tax.

Despite the advantage of local information, having the cadaster (and the valuation function, see below) outsourced to independent agencies, perhaps at the state/provincial level, would maintain the information advantages and also reduce the possibilities of the considerable rent-seeking behavior seen especially in developing countries. This arms' length administration may also succeed in offsetting the political resistance of local leaders against collecting local property taxes.

Some countries have introduced technical cadastral institutions with professionalized staff that are independent from the local government but that determine the base and keep the cadaster updated. Others have simply moved this aspect to the state or central government. Collection, too, has been moved elsewhere, either to the central government, or to independent collection agents.

Changes in how the tax is administered may also make the tax less salient and provide solutions to the unwillingness of local governments to undertake any tax effort. For instance, allowing residents to pay local taxes online or through recurrent automatic withdrawals make the tax less salient. This stands in stark contrast with the widespread practice of the taxpayers physically approaching the local government offices and leaving a large annual lump-sum in the office of the mayor or the tax administrator. Cabral and Hoxby (2012) show that when property tax is mixed in with other items in a mortgage bill (tax escrow), people are less likely to notice the tax or any increase and less likely to hold a grudge and revolt against the local government as a result.

(Brautigam, et al, 1998) and Fjedstad (2001) explain how overly enthusiastic tax enforcement through an independent agency, separate from the local government, has led to brutally violent, coercive collection in Tanzania. Since the collection agency had no incentive to gain popularity or acceptance among the residents, it had no incentive to show scruples.

Yet a reluctance to tax equally diminishes accountability. As Juul (2006) writes on tax decentralization in Senegal: "From fear of not being re-elected, local leaders seldom raise the issue of tax policy and often depend on indirect taxes for a large proportion of state revenue — with the unfortunate result that there are no discussions of how revenues are collected and used and no taxpayers to hold officials accountable."

b. Valuation

Valuations can be tricky, as records of property transactions are often incomplete and there is imperfect information on the variance in prices and values even within the same municipal area. As mentioned, the problems are compounded as the value of specific transactions is often understated in developing countries, especially where there is considerable evasion of the income tax.

Simplifications to administration can also be implemented in order to reduce the complexity of valuation. Site value taxation, for instance, allows assessment to be done in a simpler and more uniform manner than if improvements need to be considered in the tax base. It also has the potential for improving the efficiency of land use (Bahl and Linn, 1992). Taxing improvements is considered distortionary as it discourages building and investment in property and leads to under-utilization of land. Site value taxation by contrast stimulates a more efficient use of land and save costs down the road for service provision and transport. It is also considered more progressive as it tends to impact owners more than renters (Netzer, 1998).

Second, in some cases, the self-declaration of valuations may be an effective alternative to the more cumbersome revaluations that take time to set up and implement. The mechanism would serve as a supplement to the valuations based on the cadaster, and would have to be supplemented by the sanction of purchasing say at 1.5 times the declared values in egregious cases. In both cases, the authorities would have to keep track of property sale prices. This has had relative success in Bogóta, Colombia, in Bangalore, India and in Bolivia. Again, to prevent misuse and rent-seeking behavior, an arms length administration would make the measure more politically acceptable.

An often-recommended simple adjustment of property taxes in accordance with inflation may not be appropriate in many cases, as property prices may increase more or less than inflation. In the former case, the adjustment may be inadequate leading to a fall in the real revenue take, and in the latter, it may be unjust causing hardship to citizens.

2. Rate setting, base and accountability

Ambrosanio and Bordignon (2006) illustrated that sub-national accountability is generally not possible without access to own-source revenues, defined as entailing some control over rates at the margin. The right or ability to set the tax rate, at the margin is essential if there is to be a correspondence between a local tax and services provided, and also to ensure that debt can be responsibly financed by the local jurisdiction that contracts the loans.

The ability of local governments to exempt properties from tax for whatever reason introduces arbitrariness, and opens up the scope for "agreements" between the taxpayer and the collectors. As discussed above this can reflect "clientelistic" behavior on the part of local politicians. Experiments in China to impose the property tax on second homes (Shanghai) or above twice the median valuation (Chongqing) have not resulted in any significant revenues (despite a large and growing base), nor have they resulted in moderating property price increases (Ahmad and Wang, 2013).

The case for exemptions is greatly reduced if the property tax is related to the provision of community services (as in the UK), with rating valuations based on area and location. This again is an example of the Marshallian principle linking taxes with the benefits provided at the local level.

While the property tax is likely to generate considerable revenues in the metropolitan areas, the more remote towns and cities will have a more limited revenue generation capacity. Under these circumstances, an equalization system is likely to be needed—whether organized by states and provinces or the central government is a matter that would have to be decided on a case-by-case basis.

Finally, the linkage of the property tax to the access to credit for urban development and infrastructure, critical in the increasingly important urbanization strategy in developing countries (Bahl and Linn, this volume), will be a factor in reducing the political resistance to the tax. Again, much depends on the overall interaction between instruments, especially the design of transfers. If there is a system of automatic "gap filling", the incentives to use the local tax instruments will be vitiated.

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