1979

The Practice of Urban Property Taxation In Less Developed Countries

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Recommended Citation

Bahl, Roy. "The Practice of Urban Property Taxation In Less Developed Countries" in The Taxation of Urban Property in Less Developed Countries, edited by Roy W. Bahl, 9-47. The University of Wisconsin Press, 1979.

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Published for the Committee on
Taxation, Resources and
Economic Development by
THE UNIVERSITY OF WISCONSIN PRESS

Published 1979

The University of Wisconsin Press
114 North Murray Street
Madison, Wisconsin 53715

The University of Wisconsin Press, Ltd.
1 Gower Street
London WC1E 6HA, England

First printing

Printed in the United States of America

For LC CIP information see the colophon

ISBN 0-299-07860-4

Publication of this book was made possible in part
by support from the Schalkenbach and the Lincoln foundations

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The Practice of Urban Property Taxation In Less Developed Countries

The goal in this introductory chapter is to provide some perspective on the more detailed essays which follow by describing the range of property tax practices that have emerged in less developed countries (LDCs). The comparative approach taken here differs from other surveys in that it is city-specific and is drawn from the results of individual case studies.[1] Existing surveys of urban property taxation in less developed countries tend to focus on national practices (Lent, 1974; Yoingco, 1971). Since there are wide variations among cities within a country in the specifics of the tax structure and in the factors affecting its performance, these surveys are not useful for comparative urban

This research was carried out in connection with a World Bank project on urban public finances in less developed countries. I have benefited in the preparation of this chapter from comments and suggestions by Douglas Keare and Johannes Linn. Earlier versions of this work appear in Bahl (1977a) and Bahl (1978).

1. The World Bank Urban Public Finance project included eight detailed case studies—of Ahmedabad (Bahl, 1977b) and Bombay (Bougeon-Maassen, 1976), India; Cartagena (Linn, 1975) and Bogotá (Linn, 1976), Colombia; Jakarta, Indonesia (Linn, Smith and Wignjowijoto, 1976); Kingston, Jamaica (Bougeon-Maassen and Linn, 1975); Seoul, Korea (Bahl and Wasylenko, 1976); and Tunis, Tunisia (Prudhomme, 1975). Two separate but more limited case studies which are discussed in this chapter are of Lusaka, Zambia (Saunders, 1973); and Manila, Philippines (Bahl, Brigg, and Smith, 1976).

analysis. Certainly, in most developing countries the capital city is afforded a "special city" status, and its fiscal structure differs markedly from that observed for other cities in the nation.

Yet another reason for considering the tax systems of individual cities is the need to develop benchmarks against which to evaluate effective rates, levels of assessed value, property tax revenue growth rates, and tax burdens. Country surveys, while providing useful general description, do not enable the development of such norms. The usefulness of comparative norms for tax policy purposes is debated in the literature, but the comparative experience continues to be used in tax reform analyses.[2] In theory, desired levels of assessed value, etc., should be determined normatively for any given city in a context of what the property tax is intended to accomplish; but in practice, comparative "norms" are more likely to provide persuasive evidence. This is because of the absence of a useful model (and/or data) to estimate the equity and allocative effects of the property tax, and because policy makers tend to view the feasibility of discretionary actions in terms of what is done elsewhere.

Revenue Importance

The importance of the property tax as a financing source for urban governments in LDCs is considerable. This importance is overlooked because fiscal analysis usually focuses on central government finances, and in that context the property tax is truly a minor revenue source. Chelliah reports the average ratio of property tax revenues to income among fifty-two developing countries to be less than 1 percent (Chelliah, 1971).

If attention is turned to the issue of the financing of public services provided *in urban areas*, the property tax occupies a role of major importance. Ideally this importance would be indexed across cities by comparing the contribution of the property tax to financing total central, state (or provincial), and local government expenditures made in the city area. Because of data limitations,[3] it is necessary to approximate the central and state (provincial) government shares of expenditures in urban areas. In this instance it is assumed that the central and state governments spend their average per capita amount in the city area. For

2. One such area is the comparison of tax effort to establish "average" levels of taxation. See, for example, Bahl (1971a) and Manvel (1971).

3. Estimates of the distribution of direct central government expenditures in urban areas are almost never available. There are at least two reasons for this: first, there are great difficulties with assigning overhead-type expenditures; second, the financial administration process is simply not designed to generate such information.

example, average per capita expenditures (net of intergovernmental flow) of the government of India in 1971 were 92.4 rupees and so we assume that the government of India spent 92.4 rupees per Ahmedabad resident in the Ahmedabad urban area.[4] By making such a simplifying assumption it is possible to demonstrate the relative importance of local government as a provider of public services as well as the relative importance of property tax financing.

These calculations show the property tax to be an important financing source for urban public services (see table 1.1). This grows directly from the finding that local governments are of major financial importance in the delivery of urban public services—another fact which has not been generally appreciated by scholars of the public finances of developing countries. Where the property tax is not a significant revenue source, there are two possible explanations: local governments are not of major importance (e.g., Kingston), or local governments are important, but the property tax is not an important local government revenue source (e.g., Jakarta, Seoul). Since there are few cities in the latter category, one might conclude that where local governments are an important part of the urban public service delivery system, the property tax will be an important consideration in any proposed program of tax reform.

Another problem inherent in determining the importance of property taxation in financing urban government is determining what should be counted as property taxation. The convention adopted here is to count all *general* taxes on property, including those which are formally designated for certain uses—e.g., the water and refuse collection rates in Indian cities and the fire and city planning taxes in Seoul, Korea. This definition excludes an important kind of tax on property—the special assessment—which is levied for a specific purpose and is limited to those residents considered to be beneficiaries. These special assessments, sometimes referred to as *betterment levies*,[5] can assume a role of major importance in the local budget. For example, proceeds from the valorization tax account for 1.9 and 4.7 percent of all locally raised revenues in Bogotá and Cartagena respectively, and *land adjustment* receipts account for nearly 40 percent of local revenues in some recent years in Seoul. If property taxation were defined to include these land

4. It should be noted, however, that to the extent there is an urban bias in national government budget distribution (i.e., the central government directly spends more than in proportion to population in urban areas and less in rural areas), these estimates *understate* the central government share and *overstate* the importance of local government and therefore of the property tax. Throughout this discussion we have skirted the issue of the difference between where money is spent and where benefits accrue.

5. Good discussions of betterment schemes are contained in Grimes (1974) and Harriss (1972).

Table 1.1. The Relative Importance of the Property Tax in Financing Urban Public Expenditures

City	Estimated per capita expenditures in urban areas (in US $)				Percent of total expenditures made by local government	Percent of total expenditures financed from general property taxation
	Central government	State or provincial government	Local governments	Total		
Capital Value Systems						
Bogotá (1969)	15.00	—	56.00	71.00	78.9%	7.7%
Cartagena (1972)	20.23	7.52	85.09	112.84	17.9	5.7
Jakarta (1970)	11.00	—	7.00	18.00	38.9	13.0
Kingston[a] (1972)	128.00	—	16.00	144.00	12.5	—
Lusaka (1971)	127.39	—	46.86	174.24	26.8	20.5
Manila (1970)	15.00	—	10.00	25.00	40.0	13.5
Nairobi (1971)	33.48	—	36.29	69.77	52.0	17.2
Pusan (1971)	58.88	—	29.31	88.19	33.2	1.9
Seoul (1971)	58.88	—	33.63	92.51	36.4	1.3
Annual Value Systems						
Ahmedabad (1971)	12.32	14.41	19.09	45.83	41.70	5.6
Bangkok (1970)	4.00	—	10.00	14.00	71.4	23.9
Bombay (1971)	12.32	24.00	24.93	61.25	40.7	6.2
Calcutta (1971)	12.32	14.79	31.29	58.40	53.6	38.2
Singapore (1971)	—	—	—	237.10[b]	—	9.4
Median	15.00	14.60	29.31	70.39	40.00	9.40

Sources: Bogotá: Linn (1976); *Cartagena:* Linn (1975); *Jakarta:* Linn, Smith, and Wignjowijoto (1976), Lerche (1974), and Holland (1972); *Kingston:* Bougeon-Maassen and Linn (1975); *Lusaka:* Saunders (1973); *Manila:* Bahl, Brigg, and Smith (1976); *Nairobi:* Nairobi City Council (1966–73); *Pusan:* Robert Nathan Associates (1971); *Seoul:* Bahl and Wasylenko (1976); *Ahmedabad:* Bahl (1977b); *Bangkok:* Hubbell (1976); *Bombay:* Bougeon-Maassen (1976); *Calcutta:* Government of West Bengal (selected years), World Bank (1976); *Singapore:* Singapore, Inland Revenue Department (1965–73).

[a] Includes Kingston–St. Andrew Corporation.

[b] The government of Singapore is both central and local government.

taxes, it would account for a larger share of financing than shown in table 1.1. Because these levies are usually not general, are often limited to beneficiaries, and are used for a specific purpose, they are not classified here as property taxes.

When attention is turned to the more specific question of the importance of the property tax in the revenue structure of local governments, it is usually found to be a major tax source (table 1.2). But the variation is wide and the factors dictating a relatively greater or lesser reliance on property taxation are not easily generalized. It is interesting to note, however, that two Columbian cities and two of the three Indian cities (Ahmedabad and Bombay) which do not depend heavily on the property tax have in common a federalist structure and the authority to levy a form of sales tax.

For the few cities on which time series data are available, it would

Table 1.2. Percent Distribution of Local Government Revenues

		Non-tax revenues	Intergovernmental revenues and borrowing	Tax revenues	Property tax revenues
Capital Value Systems					
Bogotá	(1972)	47.2	39.6	13.2	6.0
Cartagena	(1972)	48.1	29.6	22.3	3.2
	(1969)[a]	55.0	19.6	25.3	4.2
Dar es Salaam	(1961)	26.0	19.5	54.5	43.1
Jakarta	(1971)	12.3	28.4	59.3	33.5
Kingston	(1971/1972)	7.0	67.9	25.1	25.1
Lusaka	(1972)	4.9	0	95.1	76.1
Manila	(1970)	15.3	29.9	54.8	33.9
Nairobi	(1971)	15.0	61.1	23.9	23.9
Pusan	(1971)	23.1	35.6	41.2	6.0
Seoul	(1971)	43.9	15.8	30.3	6.2
	(1964)	51.8	19.8	28.4	6.2
Annual Value Systems					
Ahmedabad	(1971)	46.2	15.2	38.6	13.5
	(1965)	42.6	18.7	38.7	16.6
Bangkok	(1968)	6.2	19.3	74.5	19.8
Bombay	(1971)	47.0	15.0	38.0	15.4
	(1964)	50.3	21.2	28.5	15.0
Calcutta	(1969/1970)	17.6	18.5	63.9	58.2
Singapore	(1972)	37.6	—	62.4	9.4

Sources: See table 1.1; *Dar es Salaam:* Penner (1970).

[a] Excluding electricity charges.

appear that the relative importance of the property tax has declined. This is an expected trend and likely attributable to several factors: the financing pressures on local governments which have resulted from rapid urbanization and have forced the search for new revenue sources, the low elasticity of the property tax, and the difficulties associated with increasing property tax revenues through discretionary actions. The latter may be particularly important since discretionary changes in sales taxes and user charges are much less visible than property tax changes and therefore are politically more feasible. However, even with this decline in *relative* importance, the absolute level of property taxation has increased substantially.

Property Tax Systems

There are three basic forms of property taxation: annual or rental value systems, capital value systems, and site or land value systems. In the first, the property tax rate is assessed against annual rental value; capital value systems use some proportion of the market value of property as the tax base; and land value systems are based on the market value of the land.

While this trichotomy in terms of property tax base is a useful point of departure, a classification formulated in terms of the legal tax base greatly oversimplifies and does not necessarily identify "similar" systems. In fact, there are far more than three types of property tax: additional types can be differentiated by varying coverage, different rate structures, and most important of all, different assessment practices. As a result it is not possible to point to one of these basic systems as clearly superior, though it is possible to identify features of each system which have favorable and unfavorable effects.[6]

As a preface to describing and evaluating various applications of urban property taxation, the notion of a property tax "system" should be emphasized. The achievement of desired equity, allocative, and elasticity effects depends on all aspects of the property tax system—the definition of the tax base, the formation of the rate structure, and the specific assessment practices applied. A major problem with urban property taxation in LDCs is that the tax has not been considered as an integrated whole when discretionary adjustments have been made. Rather, the approach to property tax reform has been piecemeal, and oftentimes components of reform have had offsetting rather than reinforcing effects. The emphasis below is therefore on describing and

6. A good comparison may be found in Heilbrun (1966).

evaluating full property tax systems, including rate structure, base coverage and definition, assessment practices, and administration.

Annual Value Systems

Annual value property tax systems are a derivative of the British rates, and are still used in most countries colonized by the United Kingdom. There are, however, assessment problems with the system which have prompted many countries/cities to consider switching to some form of capital value system or assessing some components of the tax base on a capital value basis. By contrast, there is little evidence of a trend toward annual value and away from capital value systems.

The major feature of an annual value property tax system is the definition of the base as the "expected" or "notional" rental value of property. Generally it is the rent which a willing tenant would be willing to pay under normal circumstances. The main problem with the annual value system is the assessment of a taxable base under such a subjective definition. As a result of these difficulties, many cities have switched to a capital value definition of the base for selected kinds of property. Indeed, perhaps the most significant feature of the annual value system surveyed here is that all resort to a significant extent to the use of capital value assessment.

Definition and Coverage of the Base

The common feature of annual value systems is that residential property is assessed according to some estimate of rental value—i.e., the amount on which a willing landlord and renter would agree in a free market situation. In most cases, some attempt is made to estimate the actual rent which a premise (renter- or owner-occupied) would bring. The tax base is often adjusted to a net basis to allow for repairs (usually by reducing gross value by a flat percent amount, for example, 10 percent in Bombay).

In many LDC cities, the presence of rent control confounds the notion of what constitutes a market rent. In theory, the rent control constraints could place a severe limitation on both the growth and level of assessed value. In practice, the problem has been dealt with in different ways. For example, Bombay, Ahmedabad, and Singapore have rent control ordinances which fix rents on older properties. Bombay and Singapore adhere to rent controls in the assessment of older rented properties but attempt to assess newer properties at full value. Ahmedabad ignores the rent control ordinance and assesses at market rent, but is now facing litigation which would move it back toward a controlled rent base. The opportunity cost of rent control assessments, in terms of property tax

revenues foregone, are considerable. Our estimates are that the city of Bombay lost about 62 million rupees (34 percent of total property tax revenues) in 1971.

The nonresidential property tax base is less easily defined in an annual value system. In theory and according to law, it is the annual expected rent, or the amount for which the property could be let; if capitalized, it is equivalent to the present value of the expected future flow of earnings from the property. In practice, however, the assessment procedure in most cities using an annual value system translates the base of the tax for many kinds of nonresidential properties into a fixed proportion of estimated capital value. For example, in Ahmedabad the base for large industrial and commercial properties is either 6 or 7 percent of the estimated market value of land and improvements. Another departure from the annual value base is vacant lands or undeveloped properties—e.g., in Singapore and Calcutta vacant property is assessed at 5 percent of capital value.

The list of fully exempt properties seems much the same in all cities using an annual value basis: government properties, religious and charitable properties, foreign embassies, etc. There may also be exemptions based on ownership versus rental status. In Abidjan there is an exemption for owner-occupied housing whose annual rent value does not exceed 650 dollars. Extreme cases are Karachi and Bangkok, where owner-occupied properties are exempt.

Rate Structure

There are major differences in the level and structure of annual value property tax rates. Statutory rates vary according to property value, location of the property within the urban area, and whether or not the land is developed. Two objectives seem to have been important in the structuring of these rate schedules (see table 1.3). The first is equity as reflected in the progressive features of certain statutory rate schedules. The second is the notion of the property tax as a benefits charge, as evidenced by the lower rates on suburban properties and undeveloped properties where service levels are thought to be lower. The rate structure approach to achieving these objectives, however, has been piecemeal in that other influences—for example, assessment practices—have been ignored. As a result, it is doubtful that either objective has been achieved.

To compare the progressivity of these statutory rate schedules in different cities, it is necessary to adjust the value class to account for income differences—e.g., the same statutory percentage tax rate on any given rental value would imply a much lower effective rate in

Table 1.3. Statutory Rate Structures in Selected Cities Using Annual Value Systems

Annual value (US $)	Rate	Comments
Ahmedabad		
0–67	.175	
68–133	.235	
134–400	.325	
401–667	.395	
over 667	.425	
Bangkok	.1259–.13	Improvements are taxed only if structure is rented or used for commercial purposes.
Bombay		
0–75	.352	Includes both the city rate and the state education cess; this rate is for central area, lower rates are in effect in outer suburbs.
75–299	.402	
over 299	.415	
Calcutta		
0–133	.155	Rate reduced to 0.083 percent in unserviced areas and 0.065 percent if water supply not provided.
134-400	.185	
401–1,600	.225	
1,601–2,000	.275	
over 2,000	.335	
Karachi (1971)		
0–385	.125	Includes municipal and provincial rates.
386–3,850	.150	
over 3,850	.200	
Singapore	.36	General rate in the central area; rates vary by location and are as low as 0.12 percent in some areas.

Sources: Ahmedabad: Bahl (1977b); *Bangkok:* Hubbell (1976); *Bombay:* Bougeon-Maassen (1976); *Calcutta:* Government of West Bengal (selected years), World Bank (1976); *Karachi:* Kee (1975); *Singapore:* Singapore, Inland Revenue Department (1965–73).

Singapore than in Ahmedabad. In figure 1.1, the pattern of statutory rates is plotted against the rental value-income ratio. These patterns give some idea of the equity intent of the statutory rate structures, but they do not describe the vertical equity of the system because assessed value and true ratable value differ to varying degrees across cities and across income classes.

Many features of property tax rate structures in these cities suggest that the property tax is seen as a charge for benefits received. The lower rates provided in outlying locations to compensate for "poorer services"

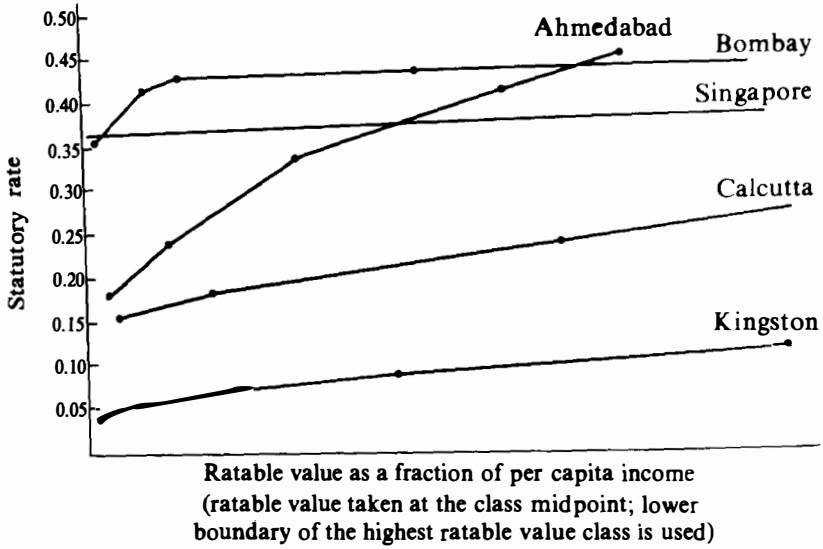

Figure 1.1. The Progressiveness of Statutory Rate Schedules in Selected Cities. (Sources: *Ahmedabad:* Bahl, 1977b; *Bombay:* Bougeon-Maassen, 1976; *Singapore:* Singapore, Inland Revenue Department, 1965–73; *Calcutta:* Government of West Bengal, selected years; World Bank, 1976; *Kingston:* Bougeon-Maassen and Linn, 1975)

are one indication of this view, while separate rates for water, refuse collection, firefighting, general services, etc., are another. In fact, this disaggregation of the general property tax rate is not meaningful since property tax receipts are almost always viewed by the city as completely fungible. In no case study were any of these designated portions of the general rate actually earmarked for any particular use.

In some other cases the property tax is actually used as a benefit charge. For example, Calcutta adjusts the property tax to account for different service levels received. The tax rate does allow for two elements of user charge. Premises with a private tubewell can benefit from a 6.50 percent rebate on the consolidated rate if no water is taken from the municipal water mains, and a rebate of 8.33 percent is given to holdings located in unsewered areas. Thus holdings which get neither water nor sewerage and fall in the lowest assessed value category (less than 133 dollars) pay hardly any tax at all, while those which have a ratable value between 133 and 390 dollars would be liable to pay a rate of just over 3 percent. Similarly, the rate in Lahore is varied from 7.5 to 10.0 percent depending on whether or not sewerage is provided.

Assessment Procedures

The major difference among cities using an annual value base is the assessment procedure used for various classes of property. No matter what the stated base and rate structure appears to be, evaluation of the equity, elasticity and yield performance of annual value systems must begin with a careful examination of the methods used to determine annual value and of the frequency of assessment. While residential property assessment practices are generally more uniform among cities using an annual value system than among those using a capital value system, methods of assessing annual rental value for nonresidential and undeveloped properties vary widely.

There are considerable assessment advantages to rental value systems in urban areas in LDCs. Many, if not most, residential units are rented and relatively homogeneous, a situation that increases the possibilities for reasonable mass assessment. Given the substantial understaffing of the assessment office in virtually all cities, there is a premium on reducing the appraisal workload.

Three cities which use mass assessment of rented properties, though with somewhat different techniques, are Ahmedabad (Bahl, 1977b), Bombay (Bougeon-Maassen, 1976), and Singapore (Singapore, Inland Revenue Department, 1965–73). A comparison of the approaches taken in these three cities is indicative of the strength of the rating approach.

Assessment of rented property in Ahmedabad is based on rents actually realized by the landlord, if such rents approximate a fair market rent. Both the landlord and the tenant are required to produce a rent payment receipt. If the assessor feels that the stated rent is not a fair one, the estimated average market rent for the neighborhood is used. This neighborhood average is estimated for a sample of properties on which true market rent data are available, with the judgment of the assessor playing a major role in combining these data to reach a neighborhood average which is applicable to any given property. Though a significant proportion of the city properties are subject to rent controls, assessment is strictly on a basis of estimated market rents.[7]

In the case of Singapore's residential properties, annual values are determined centrally on a basis of comparative rent analysis. Typically, an *average* rent is estimated for an area—block or neighborhood—and a given type structure, and this average is taken as the assessment of annual value for all similar properties in the area. If actual rents paid

7. Even though rent controls are not directly used in assessing properties, they induce distortions in the housing market and therefore in estimated market value.

vary about this mean, the residuals are ignored on grounds that the proper assessment is on "reasonable expected annual rent," and that an arithmetic average best approximates the norm. Exceptions to this general procedure arise primarily in cases where a property is used for commercial as well as residential purposes, and in cases where substantial improvements on a particular parcel have been made. The approach taken in Bombay is similar in terms of mass appraisal, except that controlled rents, where applicable, are taken as the base.

The similarities in assessment practices among rental value systems end with rented residential properties. This is due to the major difficulties of estimating fair rental values for owner-occupied properties and for nonresidential properties which are typically not rented. Countries have responded to these assessment problems by developing a wide range of appraisal methods, many of which use elements of capital value assessment.

Owner-occupied residential properties in Ahmedabad are assessed with reference to the location of property within the city's fifty-seven wards, the specific amenities of the property, construction material, ventilation, and carpet area. Though there is no assessment manual to which assessors strictly adhere, the range of assessment rates (assessed value per square meter) which have evolved over time are used as a guide. The determination of the exact assessment within any given class is determined by the assessor on a basis of these amenity and location considerations according to a ratable value per square meter, which has not been adjusted since 1967. On a basis of comparison of assessed values of similar structures—rented and owner-occupied—it has been argued that the result of this procedure is a substantial preferential assessment of owner-occupied properties—e.g., assessment at about one-fifth that for non-owner-occupied properties.[8]

The assessment of commercial and industrial properties varies widely even among these three cities. Ahmedabad has used an original construction cost approach to estimate the capital value of most large commercial and industrial undertakings and then uses a ratio of 6 to 7 percent to translate this capital value to an annual value equivalent. It would seem safe to state that large nonresidential firms in Ahmedabad are assessed at a rate which is far below market value.

In Bombay, many commercial properties are subject to rent controls, in which case the assessment is based on standard or controlled rents. If

8. Since owner-occupiers are likely to be in higher income classes than renters, *ceteris paribus,* this assessment bias may heighten the regressivity of the property tax system. The rationale of this feature of the tax is difficult to understand, since the property tax rate structure is graduated, apparently to increase the tax burden on higher income residents.

commercial establishments are leased, ratable value is established on the basis of the lease provisions. A reconstruction cost basis has been used for the newer hotels in the city, with land values estimated on a basis of comparative sales and building values on a replacement cost basis. To convert the capital value estimates to annual value, a rate of 6.5 percent and 9.0 percent for the building and land respectively has been used. A profits test—i.e., that the ratable value of a commercial enterprise is the amount it may earn annually—has been used only for the racecourse.

Industiral properties can be divided into two categories: (*a*) small and traditionally oriented factories, and (*b*) large firms such as the textile mills. In the first case, the properties are usually assessed by a comparative rental value analysis. Industrial properties are usually assessed on a negotiated basis—e.g., textile mills, of which there are presently seventy in Bombay, are assessed every five years by mutual agreement between the Bombay Municipal Corporation and the Millowners' Association on a capital value basis.

In the case of commercial buildings and factories where rental data are not available or easily estimated, Singapore has adopted an objective valuation method. The sum of (*a*) a fair return on capital value, (*b*) a fixed maintenance allowance, and (*c*) property tax payments is used to approximate gross annual rent. The fair return is computed as 6 percent of the cost of land and buildings. The maintenance cost is computed as a percent of building costs alone—a figure of 2 percent has been used, varying with the type of construction. The property tax, which must be added back since the tax base is *gross* annual rent, is then uniquely determined.

In the case of vacant or underutilized properties, resort has been made to a capital value approach. The Singapore experience in this regard is particularly interesting. At the option of the assessor, annual value may be determined as 5 percent of the estimated capital value of the property, including buildings, or 5 percent of the estimated capital value of the land. In practice, the 5 percent of capital value method is used almost exclusively for assessing vacant land and vacated structures.[9] Valuation practice in Singapore also provides for separate assessment of land and buildings where the use of the land is "uneconomic"—i.e., where land adjacent to any house or building exceeds some maximum allowable

9. Vacant but occupiable structures are however exempt from property tax liability if the owner satisfies the comptroller that the building is in good repair and fit for occupancy, every reasonable effort to obtain a tenant has been made, and the rent demanded is reasonable. An exemption is also provided for a period during which the building has been undergoing repairs to make it fit for occupancy.

amount fixed by the comptroller, the excess land is treated as vacant and its annual value is determined as 5 percent of estimated market value.

The Treatment of Institutional Property

Under most property tax systems, governmental and other institutional property is exempt. However, a payment in lieu of property taxes is usually negotiated as some fixed percentage of actual property tax liability. This percentage varies substantially by city and by type of institutional property. Ahmedabad requires state and federal payments in lieu equivalent to 75 percent of the general rate, with assessment at 9 percent of *original* capital value. In Singapore and Bombay, payments in lieu are negotiated with each payee—e.g., government, railroad, port, and utilities. The negotiated form of settlement is the more common and in some cases an impartial third party is used in the arbitration.

Capital Value Systems

Capital value, the other important base for property taxation, is probably used in more countries than is annual value. Moreover, the current trend toward considering a shift from an annual value to a capital value system or to a mixed system which includes capital value assessment of some portion of the base suggests some clear advantage to the capital value assessments. This "advantage" appears to be that for many types of property it is easier to estimate the capital value of a property than it is to estimate the rental value. Furthermore, the annual value base and assessment procedure does not enable adequate flexibility in adjusting the rate and base structure to achieve desired allocative effects.

The base in a capital value system is the assessed value of land or of land and improvements. The assessment ratio—the ratio of assessed to market value—may vary between 0 and 1 depending on the law and on the assessment procedures. Site value or pure land value taxation is one variant of a capital value system where the tax base is the market value of the land and improvements are exempt. Of the cities studied here, Lusaka and Nairobi use a pure land value system and Jakarta exempts residential improvements.

Definition and Coverage of the Base

An important feature of capital value systems is that there is less mixing (than in annual value systems) of market values and annual rents in the determination of assessed value, with the exception of the occasional

use of an expected flow of annual earnings to estimate the market value for certain types of commercial or industrial properties.

Rate Structures

There are two important features of capital value rate structures (table 1.4) which distinguish them from the annual value systems: the use of graduated rate structures by value class is less common, and there is more frequent use of a differential rate for land and improvements. This difference points to an apparently greater concern with the allocative effects of the tax under capital value systems, or at least to more flexibility in dealing with allocative effects under capital value assessments. It also implies that equity considerations are approached, if at all, through techniques other than rate structure adjustments. Of these cities only Kingston uses a graduated rate structure, presumably to improve overall equity by levying higher rates on higher value properties. In terms of allocative effects, Jakarta, Lusaka, and Nairobi tax land more heavily than improvements, and their rates would therefore appear to have a favorable effect on land use. Seoul, on the other hand, taxes improvements more heavily, a practice which provides considerably less incentive for private redevelopment. A new property tax reform in Manila has introduced the same undesirable feature for certain classes of property.

Assessment Procedures

The cities using capital value bases have a wide diversity in assessment practices. All use variants of the basic assessment methods: comparative sales, construction cost, or discounted earnings flow. All, however, have altered these basic approaches dramatically. The assessment practices now used were initially heavily influenced by the colonizing countries, but have developed over a period of time into unique systems. Procedures are so diverse that one is hard pressed to label these all as "capital value" systems. Indeed, if all were applied in the same city, it is likely that vastly different patterns of assessed value would occur.

All forms of capital value assessment are based on some notion of comparative sales. The systems differ principally in three areas: (*a*) the *extent* to which value is formula versus judgmentally determined; (*b*) whether land and improvements are separately valued; and (*c*) the frequency of systematic reassessment.

With respect to the first of these differences, judgment always plays a role in the valuation process, even if there is a formula basis for assessment. Where a formula is used, however, there is likely to be more

Table 1.4. Statutory Rate Structures for Selected Capital Value Systems

City	Assessed value class (US $)	Land	Improvements	Total tax rate	Comments
Bogotá				.1520	Includes general rate, CAR rate, and refuse collection rate.
Cartagena	25			.0084	Selected levels of assessed value.
	152			.0175	
	381			.0140	
	1,776			.0135	
	4,568			.0127	
	8,121			.0130	
	25,380			.0125	
	45,685			.0126	
	76,142			.0124	
	91,370			.0121	
Jakarta		.003			Improvements taxed only for industrial and commercial properties.
Kingston	0–167			.045	
	168–333			.049	Kingston Parish only.
	334–500			.053	
	501–833			.053	
	834–1,667			.060	
	1,668–4,167			.084	
	4,168–8,333			.103	
	8,334–16,667			.113	
	over 16,668				
Lusaka		.03	.0085		
Manila				0.03	
Nairobi		.0375			By 1975 the rate had been increased to 5.75 percent.
Seoul		.02	.04		There is also a surcharge on the property tax on improvements which varies from 20 to 80 percent depending on value class.

Sources: Bogotá: Linn (1976); *Cartagena:* Linn (1975); *Jakarta:* Linn, Smith, and Wignjowijoto (1976), Lerche (1974), and Holland (1972); *Kingston:* Bougeon-Maassen and Linn (1975); *Lusaka:* Saunders (1973); *Manila:* Bahl, Brigg, and Smith (1976); *Nairobi:* Nairobi City Council (1966–73); *Seoul:* Bahl and Wasylenko (1976).

uniform assessment. In a sense the formula basis serves as the assessment manual, which does not exist in many cities. The cities studied in detail here are illustrative of the range of possibilities for capital value assess-

ment. Seoul, Cartagena, and Jakarta use different types of formula assessment; Bogota uses a systematic, comparative sales approach; and Kingston has not had a systematic assessment procedure. The three site value appraisal systems—Nairobi, Mombasa, and Lusaka—follow relatively systematic procedures using comparative sales to estimate site values.

Seoul

Property in Seoul (Bahl and Wasylenko, 1976; Robert Nathan Associates, 1971) is assessed on a formula basis, separately for land and improvements. The market value (V) of land is estimated as the product:

$$V_{ij} = \left(\frac{V}{SM}\right)_{jk} (M)_{jk}\, SM_{ij}$$

where

$\frac{V}{SM}$ = annual rental value per square meter

M = assessment multiplier = $\frac{CV_{jk}}{V_j}$

CV = capital value

(subscripts: i = property, j = neighborhood, k = property class)

Annual rental value per square meter $\left(\frac{V}{SM}\right)$ is determined from a national survey of land rental value completed in 1960 by the Office of National Tax Administration (ONTA). In the survey, every parcel of land was classified into one of seventy grades, a rental price was determined for each class and was fixed by national law at a given amount per square meter (SM).

The annual rental value of these classes has not been revised on a comprehensive basis since 1961, though the rental values were partially adjusted upward for those lands where underlying conditions changed considerably. The taxable value of land as measured by $\left(\frac{V}{SM}\right)$ did not respond well to increases in the market value of land over the 1961–67 period. A multiplier (M) is derived annually as an estimate of *current* capital value divided by (1961) annual rental value.

With respect to the determination of the numerator of this multiplier—capital value in the current period—the actual assessment method is indirect, with values established primarily on the basis of the opinions of real estate agents. This is supplemented with comparative sales analysis.

Assessed values for individual plots are determined on a sample basis as follows: (*a*) within each neighborhood,[10] the dominant land grades are selected; (*b*) within each of these grades and for each neighborhood, about eight parcels are selected at random and valued by questioning real estate agents and by comparative analysis of sales records; (*c*) the arithmetic mean of these eight values is taken as the assessed value.

The assessed value is then expressed as a multiple of the annual rental value specified for that grade in order to determine the assessment multiplier. Hence the assessed market value of the land is determined as the product of the per square meter rental price of that grade of land, the assessment multiplier, and the land area.

The assessment of buildings is based on estimated construction costs for structures of different types. First, each building is classified by material. Second, a construction cost per square meter for each area and each type of construction is estimated.

Estimates of building costs are developed by ONTA from several sources. The Ministry of Construction (MOC) assembles building cost estimates throughout the country, and ONTA then uses these estimates as guidelines. In addition, ONTA gathers data from contractors and others in the building industry. Special attention is paid to the determination of costs within smaller geographical areas. ONTA factors the general costs up or down in order to tailor them to the specific smaller geographic areas. This is not particularly difficult to do, since variable building costs (mostly labor) tend to be relatively similar over a wide area. Due to the rapid pace of building, particularly in the larger cities, building costs can be determined fairly accurately, even for the smaller areas within the cities.

In assessing building value, there is no distinction among industrial, residential, and commercial structures. For factories and warehouses, however, there is a 30 percent reduction in the estimated assessed value of the building, on grounds that the normal assessment overstates the actual construction cost, since such buildings have few partitions, walls, and other appointments inside.

A further adjustment in the assessment is that buildings of six stories or more receive a 20 percent addition to the normal assessment. This is done on grounds that buildings of that height are probably more expensive than might be estimated on the basis of building materials alone because of costs of reinforcing the foundation, installing elevators, etc. Apartment houses, however, are excluded from this provision.

10. The city is subdivided into nine *gu*, or districts, and over three hundred subdistricts, or *dong*. We refer to the latter as neighborhoods.

Cartagena

The legal assessment ratio in Cartagena (Linn, 1975) is 100 percent of full market value, and the National Geographic Institute is responsible for assessment. The assessment procedure used is perhaps the most systematic encountered in these case studies, and certainly the most complicated. Before the actual assessment process, a detailed physical survey is made of the city, updating the Institute's maps of the city as a whole and of each city block, noting the physical characteristics of land and buildings, and determining the owner and legal title for each property. Once this survey is completed, the assessment of land proceeds in six basic steps.

Step 1 consists of breaking down the city into fifty-five sectors and classifying property by the type of residential, commercial, and industrial use. In each sector, a unit price estimate for land and buildings is roughly approximated, taking into consideration the physical characteristics of the sector, its accessibility (i.e., quality and extension of street network), soil conditions, slope of the ground, etc. These preliminary estimates are used only as a general yardstick to verify the more detailed estimates derived in the remaining five steps.

In *Step 2*, smaller subsectors are carved out of the bigger sectors, some 624 in all during the most recent assessment, and for each subsector one property, usually a corner lot, is chosen as a "key" point.[11] The value of its land (excluding improvements) is assessed as follows: for the key property and for some twelve properties spread throughout the subsector, the unit values of land are estimated according to information obtained from comparative sales records in the immediate past,[12] from the estimates of real estate agents in the city, and from estimates provided by the property owners themselves. For each of these three estimates, the median value of the sample properties is taken and of the three median values, the intermediate one (i.e., again, the median) is chosen as the unit value for the key point in the subsector. This procedure is followed for all subsectors, thus resulting in some 624 key point values.

This assessment procedure is likely to underestimate the true value of the properties concerned, because stated sales values are generally below the market price actually paid; because the adjustment procedure

11. No special characteristics appear to be attached to key properties, except that they should be centrally located in each subsector and that the required inputs for the unit value estimation should be readily available.

12. When the sales values used are from previous years, the prevailing interest rate is used to scale up the sales value to present value terms.

used for scaling up sales values of previous years may seriously underestimate the actual growth rate in fast-growing sectors of the city; and because the outside parties consulted—realtors and owners—are likely to have an interest in understating the true sales value of the properties. Even if the assessors had accurate data on comparative sales, the use of the median procedure to determine the assessed value from the two additional outside sources would lead to an underassessment. Note that this is crucial for the whole assessment procedure, since an underestimation of the land value for the key properties will lead to an underassessment of all properties.

Given the unit values for these key properties, curves reflecting equal unit land values are fitted in *Step 3* for the whole city. These contours are obtained by linear interpolation from the unit values of the key properties, giving considerable weight, however, to special features of a particular locality—e.g., the course of main streets. In establishing these weights, the assessor's judgment plays an important role.

Given the equivalue contours, the unit value of each corner lot of all blocks in the city is obtained in *Step 4* by linear interpolation along the shortest straight line through the corner lot from the two adjoining contours. Unit land values are then derived in *Step 5* for each individual property in each block via a simple calculus referred to by the Colombian cadastral officials as *resistencia*, again amounting to linear interpolation from the unit values of the two corner lots between which the property lies. For unusual lot types—e.g., lots which span an entire block—simple adaptations of this basic system are used. The unit values for each property thus obtained are referred to as "base unit values."

The base unit values are further modified for each property in *Step 6*, where the particular characteristics of a property are assigned coefficients to yield the final unit value assessed for each property. The total assessed value of land is then obtained by multiplication of the final unit value with the land area.

Improvements are assessed separately from land. In the basic handbook of the Geographic Institute (Instituto Geografico, 1969) for assessors, a list of alternative building characteristics are described and points are attributed to them according to their structural characteristics—i.e., materials, finish, state of conservation, and age. These points are added up for a particular building and the point total is associated with a unit price derived from a list that is assembled by the Institute for each municipality and for each reassessment. The list is derived from a separate survey of construction costs in the area: a curve is fitted which provides the standard table relating points to unit values by taking a large

sample of alternative building types associated with different point totals and determining what their unit value is in that particular year.

The particular unit value derived for the building under consideration is then modified to yield the final unit value by multiplicatively applying coefficients which account for the number of doors in the building, for the height, and the location and other potentially relevant factors. The final unit price is multiplied by the total floor space of the building to yield the total assessed value of the building. This process is followed for every structure on a property.

In the case of industrial and commercial properties, the value of machinery and other installations not covered by the point system is separately assessed and added to the total value. The machinery covered by the assessment procedure consists of all installations which are attached to the building and/or determine the use of the building for the particular industrial or commercial enterprise.

By summing the assessed value of land and improvements, the total value of the property is obtained. Finally, restrictions on the owner's use of the land that reduce the effective value of the property—as, e.g., rights of way across the land, etc.—are evaluated and used to adjust total assessed value.

Jakarta

Like Seoul and Cartagena, Jakarta (Holland, 1972; Lerche, 1974; Linn, Smith, and Wignjowijoto, 1976) uses a formula basis for assessment. While the statutory terminology of Indonesian property taxation clearly points to annual value as the base, the actual implementation and assessment practices (at least in Jakarta) give the tax a hybrid character, which has led some analysts to refer to it as a capital value tax. The base of the tax includes all land value, but in the case of commercial and industrial properties, also improvement value.

The basis of the assessment procedure for land is an index table according to which each property is cross-classified by zone, zoned land use, condition of amenities provided (infrastructure class), and actual use of the land. The zonal classification and the zoned land use categories follow the zoning designations of the Jakarta area master plan. The infrastructure class is determined by a classification of city streets by the Jakarta Planning Office. The index number of any property is then determined by ascertaining the zone, the zoned land use of the area, the infrastructure class of the street on which the property is located, and the actual use of the land. The index values establish the relative unit value of any plot in the city against a base of 1.0 (the lowest index value) allowing a ratio of 1:200 as the maximum divergence in relative unit land values.

In order to get from the index values to assessed rental (annual) value as the base for the tax, the index table is multiplied by a factor, which originally was set at 3, but was raised to 4 in 1971, and to 8 in 1974 (6 for lots not located on public streets). The resulting lot value is then multiplied by the tax rate to obtain the tax liability for the land. Clearly, land values as assessed according to the index procedure bear little resemblance to actual land values in Jakarta. In fact, it cannot even be established on what basis the index table was originally devised. Judging from the patterns of index values it would appear that the farther away from the city center, the lower the property value, and that commercial uses are valued higher than industrial and residential uses.

The value of improvements is assessed only for commercial and industrial properties. The procedures in principle are identical to those employed in the case of land—i.e., the same index table is applied, using the same multiplier to obtain annual (or capital) value per square meter of improvement space—and the same tax rates are levied. The only difference results in the case of multistory buildings, where the unit values are reduced by rates varying with the number of floors. The second floor is assessed at 75 percent of the basic rate, the third floor at 50 percent, the fourth floor at 25 percent, and the fifth and all remaining floors at 10 percent. No account is taken of difference in age, maintenance, construction materials, or other factors influencing the market value of improvements. As a result of these assessment procedures, wide variations exist between the market and the assessed value of improvements.

Bogotá

Assessment in Bogotá (Linn, 1976), though systematic and based on comparative sales, is not formula based, as are those discussed above. The Cadastral Division assesses land and improvements separately, with two different appraisal techniques: traditional appraisal of individual properties by district assessors, and computerized mass appraisal of land.

The *traditional appraisal* of land in Bogotá proceeds by sector within the city. For the estimation of land values no manual exists, and no land value map is constructed. Instead, a maximum and a minimum unit value of land are estimated for each sector by collecting comparative sales information for unimproved land from the official land registry, from real estate agencies, and from the Real Estate Exchange. The first two sources of information are likely to induce a downward bias in the estimation of land values, since it is generally accepted in Colombia that real estate

values are usually understated in the sales records of the registry, and since it probably is in the interest of real estate agents as a group to understate the value of land in their communications with cadastral officials.

Once the range of maximum and minimum land values is established for a sector, an assessor visits each property in the sector and estimates the unit value of its land within this range. The availability of sales information judged relevant to the particular property is generally taken into account by the assessor, but since there is no systematic procedure for him to utilize such information, land value appraisal essentially rests on the assessor's personal experience and expertise.

Mass appraisals of land took place in 1972 in some zones of the city and involved increases of up to 25 percent in the land values of all affected properties. The largest number of these reassessments took place in the central section of Bogotá where, according to recent studies, the rate of increase in the market value of land between 1970 and 1972 has been slowest.

While land values are (in principle) assessed at market value, improvements are valued by an approximation of replacement costs. The assessment follows general instructions issued by the chief assessor of the district, which distinguish among four types of improvements: housing and related structures, commercial buildings, factories, and warehouses. Associated with each category is a suggested range of unit values which represent no more than broad guidelines, leaving the assessor substantial room for personal judgment. The procedure employed in deriving the values presented in the appraisal instructions could not be established in this study. But it is of interest to note that between 1968 and 1973 no change in the suggested range of unit value for improvements was made. In April 1973 a substantial increase in the suggested unit values occurred, particularly for housing and related structures.

Kingston[13]

Kingston (Bougeon-Maassen and Linn, 1975) is an example of a non-systematic system of appraisal, based in large on self-assessment. When a property changes hands, or a subdivision takes place, or a new improvement is constructed, the owner of a property is required to submit to the Collector of Taxes an "ingiving" (self-assessment), consisting of a description of the property and an estimate of its value. The rate of failure or delays in submitting the ingivings is high and no effective

13. Though reforms in progress at the time of this writing provide for a switch to a site value system, only the present capital value system is considered here. For a discussion of that reform, see chapter 10, by O. St. Clare Risden, in this volume.

enforcement or application of penalties appear to have been used. In practice, information on property transfers, subdivisions, and improvements has never been collected on a systematic basis. Moreover, since there are no generalized registration requirements in the Kingston–St. Andrew Corporation (KSAC), only about half of the parcels in the corporate area are registered. The data available at the Title Office have been rarely used in the assessment process.

After the submission of ingivings, the Collector General can prepare an appraisal or delegate the appraisal to the two collectors of taxes of the Kingston and St. Andrew parishes. The local collectors take over the appraisals of most properties, and only very large ones (fifty acres or more in Kingston) remain the responsibility of the Collector General. As recently as 1974, an average of only fifteen valuations per month were made by each collector, and it is reported that even this small number represents an increase over what was previously the practice.

In the appraisal of properties, no systematic assessment procedure appears to have been applied. Land prices were obtained from sales of similar-sized vacant lots located in the same areas. The construction cost of improvements was obtained from the records of developers' transactions as provided by the Chamber of Commerce. Rental values and data obtained from the Title Office also were occasionally used, but again not on any systematic or continuing basis. Once a preliminary assessment of the market value of a property was obtained, this value was adjusted by a factor of 10 percent in the case of land and a factor of 12.5 percent in the case of buildings. According to tax officials, these percentages reflected approximately the average discrepancy between current market value of properties in the KSAC and the value of properties on the valuation roll. Once this benchmark was determined, negotiations with the property owner took place to determine the final value of the property.

Nairobi and Mombasa

An analysis of assessment practices in Nairobi and Mombasa (Nairobi City Council, 1966–73; Mombasa Municipal Council, 1966–73) may be instructive in that both use a site value property tax, and in that their different approaches illustrate the wide variation in assessment practices even within a country. Assessment in Nairobi is made strictly on a comparative sales basis for all uses of property. First the city is divided into zones, and transaction data for all vacant properties are recorded. As of the last general reassessment (in 1969) there was ample evidence of sales of vacant property even in the downtown area. From these com-

parative sales data and a considerable amount of judgment on the part of the valuers, the assessment roll is created. In theory it is revised every fifth year, but in the case of Nairobi it has not been revised for six years. Additions to the roll take place mainly because of subdivisions and zoning changes, but in all cases the estimated values are interpolated backward to the year of the last general reassessment.

The assessment procedures in Mombasa are considerably more complex. Assessment of site value is made primarily on a basis of comparative sales information gathered for a number of zones into which the city council area is divided. At the time of the last general revaluation in 1959, there was ample evidence of vacant properties having been sold; hence it was comparatively easy to establish "zonal" land values. Having established site values for various zones, assessments are adjusted for varying lot sizes and depths.

In the old city, Mombasa Island, it is assumed that for any given lot width, the first ten feet of property are the most valuable and that site value per foot diminishes with increased lot depth. On the mainland, and in the newer territories, zonal value is established from comparative sales evidence in each of forty-eight zones. Then, each assessment is adjusted according to lot size, seaside location, etc. The site value is adjusted 30 percent upward if the lot has a seaside location, and an allowance is given for lot sizes which are larger than the zonal average. Whenever a new valuation is made, sales evidence is used to estimate the value of the plot as of 1959, the year of the last reassessment.

The Treatment of Institutional Property

Payments in lieu of property taxes are generally less in amount than actual property tax liability and are usually calculated from a negotiated formula. Seoul would appear to be a special case since government buildings are exempt from the property tax and no payment in lieu is made. The actual tax levy, or payment in lieu, for institutional property varies widely among these cities, and there do not appear to be general patterns or procedures.

There are some arguments for including institutional properties within the tax base. First, services must be provided to workers in these buildings just as in any other buildings. Second, the absence of a property tax artificially lowers the price of a location, and may induce a government to choose an inefficient location for certain of its activities. Third, governments in urban areas where there is a large growth in government activity bear a disproportionately large proportion of the revenue loss cost of the exemption. That is, the exemption problem would seem

more pressing on capital cities or on primary cities in metropolitan areas where the local government structure is fragmented (e.g., Manila).

Revenue Performance

A major local government finance issue in developing countries is the failure of property tax revenues to respond adequately to increasing levels of urban income and/or public expenditure needs. Incomes rise because of both inflation and real growth, but the property tax base generally grows at a much slower rate, with its growth limited as much by administrative bottlenecks as by real factors. There are a number of possible reasons for this lack of responsiveness: too many exclusions from the base, inadequate assessment practices and infrequent reassessment, a poor collection rate, a statutory rate structure not conducive to capturing the growth in urban income levels. The goal of this section of the chapter is to investigate these possible causes by constructing a set of "average" characteristics of urban property tax systems—e.g., an average level of assessment and an average effective property tax rate. By identifying systems where the key components differ considerably from some cross-city average, it may be possible to isolate major reasons for the success or failure of particular property tax systems.

The Level of Effort

A first consideration in evaluating the revenue adequacy of the property tax is the level at which the tax is levied. In this sense, the tax effort issue is a first approximation to whether there is room to raise the tax level through discretionary fiscal actions. The level of property tax effort might be measured roughly as the ratio of property tax revenue to income. Clearly there are great problems with any single measure of tax effort. With specific reference to the property tax, a low effort may mean only that other taxes are used more intensively; hence these results should be read in conjunction with tables 1.1 and 1.2, which describe overall dependence on the property tax. Moreover, it should be emphasized that tax effort used this way is not "burden," since much of the tax may be paid by firms which are able to shift it out of the region or the country. Still, such a comparison may provide some guidelines about "average" levels of assessment, etc., in other countries, and the use of presumed tax handles.

The effort indicator for the property tax may be decomposed into the *effective tax rate* (ratio of tax to base) and the *effective base rate* (ratio of base to income). If the former is low relative to other cities, the underlying problem would appear to be the rate level and/or structure; if the

Table 1.5. Comparative Levels of Property Tax Effort

City		Per capita total property taxes	Per capita assessed value	Assessed value as a percent of income	Taxes as a percent of assessed value	Property taxes as a percent of income
Capital Value Systems						
Bogotá	(1971)	US $ 3.49	US $653	1.260%	0.5%	0.63%
Cartagena	(1972)	2.76	518	2.040	0.5	1.0
Jakarta	(1972)	0.35	3	0.020	0.1	...[a]
Kingston	(1971)	7.21	115	0.162	6.2	0.9
Lusaka	(1972)	9.60	845	5.709	1.1	6.4
Manila	(1970)	3.63	481	2.490	0.8	1.9
Nairobi	(1971)	10.94	288	0.510	3.8	1.9
Seoul	(1971)	2.20	840	1.935	0.3	0.5
Annual Value Systems						
Ahmedabad	(1972)	3.75	15	0.142	24.9	3.5
Bombay	(1971)	4.80	18	0.068	27.4	1.9
Calcutta	(1971)	5.73	14	0.080	40.9	3.3
Hong Kong	(1973)	15.20	131	0.111	11.6	1.3
Singapore	(1968)	14.30	32	0.046	44.4	2.1

Sources: Bogotá: Linn (1976); *Cartagena:* Linn (1975); *Jakarta:* Linn, Smith, and Wignjowijoto (1976), Lerche (1974), and Holland (1972); *Kingston:* Bougeon-Maassen and Linn (1975); *Lusaka:* Saunders (1973); *Manila:* Bahl, Brigg, and Smith (1976); *Nairobi:* Nairobi City Council (1966–73); *Seoul:* Bahl and Wasylenko (1976); *Ahmedabad:* Bahl (1977b); *Bombay:* Bougeon-Maassen (1976); *Calcutta:* Government of West Bengal (selected years), World Bank (1976); *Hong Kong:* Hong Kong, Commissioner of Rating and Valuation (1973); *Singapore:* Singapore, Inland Revenue Department (1965–73).

[a] Indicates less than 0.1%.

latter is relatively low, the assessment level may be the problem. Comparative levels of effective tax and base rates and of property tax effort are presented in table 1.5.

The effective base and tax rates are comparable only among cities using the same base, but the tax effort measure is comparable among all cities in the sample. Among the capital value systems, Kingston, Bogotá, Jakarta, and Seoul appear to have the lowest levels of property tax effort. The explanation for this relatively poor performance, however, differs among these cities: in Kingston the problem clearly is low assessment; in Seoul it is a low effective rate; and in Jakarta and Bogotá both the effective rate and the base ratio are low. This rough comparison squares with property tax policy concerns in Seoul and Kingston—i.e., Seoul's very low rate level and Kingston's long-standing need for overall reassessment. To the contrary, the higher property tax efforts in Manila and

Lusaka would appear to be the result of both a relatively high effective rate and a base which is large relative to income.

From such a small sample it is most difficult to make an inference about "normal" property tax effort. If the average performance of these thirteen cities—an effort ratio of about 2.0 percent—is taken as a norm, then Bogotá, Cartagena, Kingston, Jakarta, and Seoul would appear to make abnormally low property tax efforts relative to their incomes. Because of the very small number of urban areas for which we have data, it is difficult to uncover any systematic relationships which may exist between this effort pattern and the characteristics of the cities.[14]

Among the annual rental value cities, the pattern is less clear. Calcutta and Ahmedabad would appear to make the highest tax efforts—Calcutta because of a high effective rate and Ahmedabad because both effective rate and base percentage are high.

The wide variation in the value of the base observed here could stem from a number of factors, including variations in the composition of the tax base, heavy underassessment, and the level of exclusions. There are many examples of drastic underassessment in the cities studied here. The assessment ratio in Manila City is between 30 and 50 percent, in Jakarta about 20 percent, in Kingston less than 20 percent, and in Ahmedabad about 20 percent for owner-occupiers. In virtually every city there was evidence that property is assessed at a rate considerably below true market value. The reasons for this underassessment, however, vary widely. In some cases it is due to a conscious underassessment of property, whereas in others it is due to infrequent and dated assessments.

Revenue Growth

The growth in property tax revenues has lagged behind the growth in income, and in some cases behind the growth in the general price level—i.e., real property tax yield has fallen. The rates of growth in real and actual levels of property tax revenue and assessed value are described in table 1.6. Because of the wide variation in these growth rates, a "normal" performance is difficult to identify. These data indicate, however, that both total property tax revenues and assessed values grew at a higher rate in cities using the capital value system than in cities using the annual value system. In only about half the cities was there an increase in the intensity of property taxation—i.e., in the effective rate. When these data are adjusted for population and price level changes, the pattern of increase becomes less clear.

14. The simple correlation between property tax effort (as measured by the ratio of property tax revenues to income) and per capita income has the expected negative sign but is not significant at the .05 level.

Table 1.6. Growth in Property Tax Revenues and Property Tax Base

	Annual rates of increase			Population elasticity[b]			
	Property tax revenues	Assessed value	Prices[a]	Property tax revenues		Assessed value	
				Actual	Real	Actual	Real
Bogotá	12.9	19.4	10.5	2.0	0.70	3.7	1.80
Cartagena	16.5	22.5	9.0	3.3	1.40	4.4	2.50
Jakarta	120.7	—	13.1	33.6	2.56	—	—
Kingston	6.9	4.7	5.4[c]	2.6	0.47	1.7	0.30
Lusaka	16.3	14.8	6.8	1.2	0.60	1.1	0.50
Seoul	38.0	31.0	12.0[c]	4.2	2.50	3.4	1.90
Tunis	4.8	6.8	3.6	1.2	0.30	1.6	0.80
Ahmedabad	5.6	6.7	5.5[c]	2.0	0.04	2.4	0.04
Bombay	8.0	7.2	7.1	2.2	0.20	1.9	0.02
Calcutta	4.5	4.0	7.1	6.4	−3.40	5.7	−4.10
Hong Kong	6.9	18.7	1.8	3.4	2.50	9.4	8.30
Singapore	10.8	9.1	1.0	4.9	4.40	4.1	3.60
Median	7.5	8.2	7.1	2.7	0.54	3.4	1.80

Sources: Bogotá: Linn (1976); *Cartagena:* Linn (1975); *Jakarta:* Linn, Smith, and Wignjowijoto (1976), Lerche (1974), and Holland (1972); *Kingston:* Bougeon-Maassen and Linn (1975); *Lusaka:* Saunders (1973); *Seoul:* Bahl and Wasylenko (1976); *Tunis:* Prud'homme (1975); *Ahmedabad:* Bahl (1977b); *Bombay:* Bougeon-Maassen (1976); *Calcutta:* Government of West Bengal (selected years), World Bank (1976); *Hong Kong:* Hong Kong, Commissioner of Rating and Valuation (1973); *Singapore:* Singapore, Inland Revenue Department (1965–73).

[a] The annual increase in prices for the 1964–70 period is taken from *International Financial Statistics* 24, no. 6 (June 1971).

[b] Percent increase in property tax revenues (assessed value) per 1 percent increase in population.

[c] Actual rate of price increase for city. In other cases, broader regional or state rates were used, and where no other alternatives were available, national data were used.

Ideally, one would like to estimate the long-term income elasticity of the property tax for each city, but data problems are severe. In particular, data on changes in assessed value are not generally available. Moreover, there are conceptual problems with estimation of the income elasticity of the property tax. It is difficult to separate revenue increase due to automatic growth from that due to discretionary rate or base changes. Nevertheless, some estimate of the responsiveness of property tax revenues to urban economic growth is an important element in tax policy planning in general, and in evaluating and adjusting the property tax structure in particular.

In each of the case studies, some attempt was made to estimate the

Table 1.7. Selected Distributional Characteristics of Property Tax Systems

City	Rate structure graduated with property values	Assessment bias by value class	Differentiation between land and improvements	Frequency of devaluation	Preferential treatment by location within the urban area	Preferential treatment of low value properties
Bogotá	No	No	No	Unofficially about every 12½ years.	No	No
Cartagena	Yes (regressive)	No	No	1962, 1965, 1967, 1971/72.	No	No
Jakarta	No	No	Residential improvements exempt.	Last revaluation in 1967.	Yes; declining assessment (by formula) for farther-out plots.	No
Kingston	Yes (progressive)	No	No	Last revaluation in 1928.	Yes; higher rates in St. Andrew.	No
Lusaka	No	No	Lower rate on improvements.	Every 5 years.	No	Yes; squatter settlements not subject to rates.
Seoul	No	No	Higher rate on improvements.	Annual.	No	Properties with tax liability less than W50 are exempt.
Abidjan	—	Owner-occupiers exempt if annual rental value less than $650. (progressive)	No	—	—	—

Table 1.7 (continued)

City	Rate structure graduated with property values	Assessment bias by value class	Differentiation between land and improvements	Frequency of devaluation	Preferential treatment by location within the urban area	Preferential treatment of low value properties
Ahmedabad	Yes (progressive)	Preferential treatment of owner-occupiers. (regressive)	No	Every 4 years.	No	No
Bangkok	No	Owner-occupiers exempt. (regressive)	Improvements exempt unless structure used for renting or commercial purposes.	Every 4 years.	—	—
Bombay	Yes (progressive)	No	No	Every 4 years.	Yes; suburbs taxed at lower rates.	—
Karachi	Yes (progressive)	Owner-occupiers exempt. (regressive)	—	—	—	—
Singapore	No	No	No	—	Yes; lower rates for certain properties in suburban areas.	Yes; in certain locations.
Nairobi	No	No	All improvements exempt.	Every 5 years; last in 1969.	Yes; lower rates for certain properties in suburban areas.	No

Sources: Bogotá: Linn (1976); *Cartagena:* Linn (1975); *Jakarta:* Linn, Smith, and Wignjowijoto (1976), Lerche (1974), and Holland (1972); *Kingston:* Bougeon-Maassen and Linn (1975); *Lusaka:* Saunders (1973); *Seoul:* Bahl and Wasylenko (1976); *Abidjan:* Joshi, Lubell, and Mouly (1976); *Ahmedabad:* Bahl (1977b); *Bangkok:* Hubbell (1976); *Bombay:* Bougeon-Maassen (1976); *Karachi:* Kee (1975); *Singapore:* Singapore, Inland Revenue Department (1965–73); *Nairobi:* Nairobi City Council (1966–73).

responsiveness of property tax revenues to growth in the local economy, even in the face of severe data inadequacy. Because of inadequate personal income data, we must approximate an *upper boundary* on the income elasticity of the property tax. By substituting population for income, we may derive a revenue-population elasticity, the percent increase in property tax revenues associated with a 1 percent increase in population, which is equivalent to the revenue-income elasticity if there has been no change in *per capita* income. If per capita income has in fact increased, then the population elasticity is a high estimate—the actual income elasticity must be lower.

As may be seen from the data presented in table 1.6, property tax revenues have generally grown at rates two to three times higher than the population growth rate. This implies that there has been an increase in the per capita property tax revenues, but in real terms this amount has tended to be small. With respect to the cities studied here, the population elasticity of the property tax exceeds unity in real terms only in Cartagena, Seoul, Singapore, Jakarta, and Hong Kong. Though adequate income growth rate statistics are not available, it seems likely that incomes in these cities have grown at a faster rate than the population, and therefore the property tax is inelastic. This conclusion of an inelastic revenue response is reinforced by the inclusion of discretionary effects in the revenue increases—i.e., these data result in an *overstatement* of the built-in elasticity of the system.

Allocative Effects

With scarce public sector resources to be devoted to urban renewal and with housing shortages a common problem in nearly all LDC cities, there is a premium on using tax policy to induce private sector housing investment. Accordingly, features have been built into the system of property taxation which are designed to affect the renewal and maintenance decisions of private owners and developers.

While there is no conclusive, hard evidence that adjustments in the property tax structure can significantly affect the allocation of land use, the view taken in most LDC cities would seem to be that it can. This is evidenced by the wide range of discretionary policies which have been adopted. Whether intentionally or not, property tax systems in various cities (see table 1.7) have features which conceivably discourage urban sprawl and the continued existence of underdeveloped land within the urbanized area, promote the decentralization of the metropolitan population, encourage housing and urban renewal, discourage housing maintenance and urban renewal, encourage "higher" buildings, and

encourage home ownership. These features have been built into property tax systems through marginal adjustments in the property tax rate structure and/or assessment practices and through the institution of specific property tax coercive measures.

Site Value Taxation

A property tax system which does not tax improvements—i.e., a site value system—is alleged to have favorable allocative effects (Hicks, 1959; Hicks and Hicks, 1954). Since only land is taxed, owners are encouraged to make optimal use of the land—there is no penalty for improving a property, as there is under a capital value system. It is important, however, that the level of land taxation be high enough to induce landowners to develop.

There is little available evidence that demonstrates the allocative effects of site value taxes—the many other influences on the redevelopment decision complicate the measurement of the pure tax effect. A simple analysis of some data gathered for Nairobi, a city which does use a site value system, enables some estimate to be made of the magnitude of the investment incentive of alternative forms of property taxation.[15] A sample of twenty-five properties was valued by the Chief Valuer of Nairobi on both a site and an annual rental value basis and the change in property tax liabilities for each property was simulated under the assumption of equal yield taxes.

In the case of downtown commercial properties, this analysis suggests that a switch to an annual value base could have a significant effect on the annual return from property investment, particularly for lower valued improvements on prime sites. For example, in one instance, the redeveloping of an older property on a prime site by erecting an office building that would yield a prime site rent would result in higher taxes under the rental value system—by an amount equivalent to 10 percent of the annual return in the higher use.

Discretionary Adjustments

Most of the cities studied here do not use pure site value taxation, but they do induce allocative effects by adjusting their rental and capital value systems to encompass some of the features of a site value system. Consider first the treatment of *vacant land.* The intent of property tax policy is to tax away a part of the windfall gains earned by speculators and/or to stimulate the earlier development of "ripe" land. It is common practice among cities in LDCs to assess vacant land on a separate basis—

15. This analysis is reported more fully in Bahl (1977a).

e.g., in countries using the annual value system, idle land is usually assessed at some percent of estimated full market value. In principle, the notion of taxing these properties at higher rates is consistent with the objective of promoting optimal use of land and confiscating the windfall gains of speculators.

In Singapore, certain vacated plots and plots containing vacated structures are assessed at 5 percent of capital value—over twice the implied percentage for improved properties. This higher rate is in some cases applied to occupied properties of unusually low land intensities—e.g., if a factory occupies more land than seems warranted by the assessor, the "excess" land may be considered vacant and may be assessed at 5 percent of capital value. This 5 percent of market value assessment of idle land is also applied in Calcutta. In Abidjan, undeveloped properties are taxed on a basis of their market value, and undeveloped land on a base equivalent to the difference between one-third of capital value and rental value. Bombay and Ahmedabad use similar procedures in assessing vacant land on a capital value basis. Differentially higher rates on vacant land are also the case in Bogotá, Cartagena, and Seoul, cities which use capital value systems as well as in Nairobi, Jakarta, and Lusaka, which have primarily land value systems.

For occupied properties which are not vacant, a number of adjustments have been made which may induce increased property investment. The most common form of adjustment in the capital value systems is to tax improvements at a higher rate than land, thereby taking on some features of a site value tax. In cities which use an annual value system, the assessment procedure does not allow a differentiation between the land and improvements components of the tax base. Accordingly, annual value systems are less easily adjusted to provide investment incentives. Cities using an annual value system tend to build in these allocative features by resorting to capital value assessment or exemptions. For example, in Abidjan there is a far-reaching set of exemptions covering all new constructions and renewals, with the exemption period being longest in owner-occupied units.

Singapore's exemption based on building heights is a good example of using the property tax structure to provide an incentive to encourage a particular kind of redevelopment. In 1967 a property tax concession was to government approval in each case. The concession amounted to a complete waiver of property tax liability for six months after construction begins plus one additional month waiver for each storey on the building. On completion of the building, the property tax remains at a preferentially lower rate for a period of twenty years.

Some cities have property tax features which encourage metropolitan decentralization through providing lower tax rates and/or preferential assessment in outlying areas. Bombay and Singapore differentiate among areas within the city by charging a lower property tax rate in the outermost suburbs on grounds that public services in these areas are poorer than those provided in the core city area. There is some justification for this position in that suburban locations tend to have more unpaved streets, little or no lighting, a need to travel farther for health and education services, and poorer sewerage and other utility services. One might argue, however, that such practice results in a double subsidy in that lower service levels should already be reflected in lower rental values and hence in lower assessments. The net effect of such practice may be only to reduce tax burdens on farther-out sites, and if the property tax is large enough to have a measurable effect on location decisions, to stimulate decentralization in the pattern of urban development.

The encouragement of home ownership may provide a similar incentive since much new housing construction activity is taking place on the urban fringe. Owner-occupiers receive preferential treatment in some form in most of the cities studied here.

Supplementary Programs

Many local governments have turned to property tax related programs which are outside the regular property tax systems. In most cases, the intent of the programs is capital project finance, though allocation effects do occur. For example, land adjustment schemes in Korea stimulate property investment in areas where it otherwise might not have taken place; or valorization schemes in Colombia assign the cost of highway projects to beneficiaries and thereby recapture windfall gains.

Other programs are specifically structured to induce investment in physical structure. A particularly interesting use of property taxation to finance and guide renewal is applied in Bombay. The State Government Building Repairs and Reconstruction Board was created to provide for the repair or reconstruction of dangerous buildings and to provide for relocation of those displaced (Bahl, 1971b). The board has the responsibility and authority to carry out structural repairs, to acquire properties, and to demolish. For these purposes, the board is authorized to levy a property tax on all residential properties in the city area.

Other taxes on property have been imposed, usually by the central government, to discourage land speculation. Notable examples are the land speculation tax in Korea, the capital gains tax on land imposed in Kenya, and Taiwan's land value increment tax. In a sense, property transfer taxes or stamps have always captured some portion of the capital

value increments in land, but these have generally been ineffectual in having major allocation effects because (*a*) enforcement is lax and transaction values are understated, (*b*) nominal rates are relatively low, and (*c*) land transfers are not usually treated differently from any other transfers, and hence there is no tax inducement to shift out of land into other assets.

Conclusions

The analysis here suggests wide intercity variations in the effective rate and base of the property tax. And while there are not adequate observations to permit firm identification of "average" or "normal" performance, there clearly is much opportunity for transfer of experience among cities.

The comparisons in this chapter describe wide variations in urban property tax practice and suggest a range of allocative, equity, and more purely fiscal effects. Local governments in LDCs have made considerable adjustments in their property tax structures in order to achieve certain allocative/equity goals, but they appear to have made these adjustments in a piecemeal fashion and oftentimes have unintentionally made other offsetting piecemeal adjustments. If there is a lesson in this experience, it is that local financial planners have not considered the whole of the property tax system in assessing and projecting the economic effects of rate/base adjustments.

Though there is much variation in the importance of the property tax as a local revenue source, it generally is a dominant local government tax. The evidence indicates, however, that the revenue yield performance of property taxes is weak. In some cities, property taxes have grown at a rate which is even less than the increase in the price level. In most cases, the growth rate in money terms would appear to be less than the growth rate in income. This relatively low growth in property tax revenues is mainly due to the inability of local governments to reassess property so that actual property value growth is matched by growth in the assessed value base.

The property tax practices observed in these case study cities suggest a variety of intended allocative effects—some reinforcing and some offsetting. Simply in terms of the partial effects of certain features of these property tax systems, it would appear that discretionary policy has been designed to encourage home ownership and the decentralization of population within the urban area and to discourage speculation in idle land. On the other hand, one can find policies designed to encourage or

discourage housing investment and an improved allocation of land use. In general, capital value forms of property taxation appear much more amenable to allocative adjustment than do the annual value systems.

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