

PN-ABI-334

Local Government Finance in LDC's: Trends and Issues.

336 Southeast Asia Development Advisory Group  
B151 (SEADAG).

Local Government Finance in LDC's: Trends  
and Issues. Roy Bahl. Feb. 1976.

33 p.

Bibliography: p. 32-33.

Paper presented at a SEADAG Seminar on  
Development and Finance of Local Government in  
Thailand, Chiangmai, Feb. 2-3, 1976

1. Local government. 2. Municipal finance. 3. Finance,  
Public. 4. Taxation. 5. Local finance. I. Bahl, Roy. II.  
Title. III. Urban Property Taxation in Less Developed  
Countries. IV. Development and Finance of Local  
Government in Thailand.

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LOCAL GOVERNMENT FINANCE IN LDC'S:  
TRENDS AND ISSUES

PN-ABI 334

ISN 72154

ROY BAHL\*

I. INTRODUCTION

The certainty of rapid population growth in large and medium size cities in LDC's all but guarantees a local financing problem. This growth will, as well, underline the urgent need for remedial central government policy toward the local sector. The major elements of a proper central government policy toward local governments are the assignment of the functions and the division of resource bases--both of which raise the issue of the proper amount of autonomy to allow the local public sector. If the decision is to allow greater local government autonomy in service delivery and financing, the important questions become whether different size local governments will be given different treatment, what is the proper structure of local government and the proper relationship to the central government, and what revenue instruments will be made available to local governments.

This paper is addressed in large to the latter issue, the revenue raising problem of local governments in LDC's. In particular, we focus on what is and will likely continue to be the major source of local revenue--the property tax.

Before turning more specifically to the property tax, it would seem useful to examine briefly the overall financing role of local governments. At least in large urban areas, local governments play a major role in financing public services.<sup>1</sup> For each city considered in the sample here,

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\* Professor of Economics and Director, Metropolitan Studies Program, The Maxwell School, Syracuse University. In this paper, I draw heavily from my earlier work, "Urban Property Taxation in Less Developed Countries," IBRD Staff Working Paper, forthcoming; and "Urban Property Taxation in Less Developed Countries," in Property Taxation, ed. by George Break (University of Wisconsin Press, forthcoming).

<sup>1</sup>The data and experience reported in this paper are drawn from the results of a research project involving a set of case studies of city finances in LDC's, directed by this author for the World Bank (IBRD Research Project 270, Urban and Regional Economics Division, 1974-1976).

we have estimated total government expenditures in the metropolitan area as the sum of per capita expenditures for all overlapping governments. For central and/or state government expenditures in the urban area, we have used the per capita national/state average and, therefore, have at best a crude approximation. Still, as may be seen from table 1, these calculations indicate a substantial importance of local governments in the financing and delivering of public services. Over one-third of all expenditures attributable to local units of governments is not abnormal according to these rough computations. Moreover, local government revenues are shown to be, in some cases, a significant fraction of personal income in the urban area. This potentially high tax burden resulting from local government fiscal activities is a factor which has been generally missed in considering the burden effects of government taxation.

If evidence is lacking on the levels of local government spending, it is all but nonexistent on the pattern of local government financing. From the case studies cited above, we have compared Ahmedabad, India; Seoul, Korea; Cartagena, Colombia; and Kingston, Jamaica. While this sample is small and not in any sense random, it does serve to illustrate the major importance of tax revenues in the financing of local government services. Of the four cities, only Kingston shows a low dependence on tax revenues, however, as may be seen from table 1, Kingston plays an inordinately small role in the provision of public services. While Ahmedabad and Seoul appear to show less reliance on tax revenues than Cartagena, the presentation in table 2 is misleading. In the case of Seoul, a large portion of 'self-financed' revenues are actually receipts from a land adjustment program which in essence is a betterment levy on suburban land developed by the local government. In the case of Ahmedabad, a sizable amount of property taxes collected in lieu of water charges for unmetered properties are shown under 'self-financed'. In sum, these results indicate that current tax revenues play a major role in the local government financing and, hence, a major role in the overall financing of services delivered in the urban area.

TABLE 1

## COMPARATIVE FISCAL EFFORTS OF SELECTED METROPOLITAN AREA GOVERNMENTS

	<u>Manila</u> 1970	<u>Seoul</u> 1971	<u>Ahmedabad</u> 1971	<u>Bogota</u> 1969	<u>Cartagena</u> 1970	<u>Bombay</u> 1971	<u>Jakarta</u> 1971/2	<u>Kingston</u> 1971/72	<u>Bangkok</u> 1970
Population (in thousands)	4,403	5,851	1,588	2,339	324	5,971	4,576	566	2,268
Per Capita Income (\$US)	193	375	76	(1970)501	156	(1970)283	135	499 <sup>c</sup>	311
Per Capita Expenditure in Metropolitan Area <sup>a</sup> (a+b+c) (\$US)	25	81	48	71	42	63	18	138	14
a. city	10	29	20	56	14	26	7	16	10
b. state	-	-	15	-	13	24	-	-	-
c. central	15	52	13	15	15	13	11	128	4
Total per Capita Expenditure (a+b+c) as a percent of total income	13.0	21.6	63.2	14.2	26.9	22.3	13.3	30.7	4.
Local Government per Capita Expenditure as a Percent of Total per Capita Expenditure	40.0	35.8	41.7	78.8	33.3	41.2	38.9	11.6	71.
Per Capita Local Govern- ment Revenue (in \$US)	6.4	28	17	52	16	14.5	7.2	15.26	12.
As a Percent of Total Income	3.3	7.5	22.4	10.3	10.2	5.1	5.3	3.3	4.
Per Capita Local Govern- ment Revenue from own Sources (\$US)	3.0	24	16	51	15	14.0	4.0	4.9	12.
As a Percent of per Capita Income	1.6	6.4	21.0	10.2	9.6	4.9	3.0	1.0	3.

TABLE 1 - Continued

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<sup>a</sup>The figure generated for central government expenditure is the per capita average for the entire country. That is we assume the government spends this per capita amount for each citizen regardless of location.

TABLE 2  
SOURCES OF LOCAL GOVERNMENT FINANCING

<u>Percent Distribution of Financing</u>	<u>Ahmedabad</u>	<u>Seoul</u>	<u>Certagena</u>	<u>Kingston</u>
Tax Revenue	38.6	30.3	54.9	20.5
Non-Tax Current Revenue	5.9	13.4	5.8	3.0
Grants	4.2	15.8	35.2	42.0
Loans	11.0	4.1	---	29.8
Self-Financed	41.8	36.3	3.8	2.3

When attention is turned to the more specific question of the importance of the property tax in the revenue structure of local governments, it becomes clear that it usually dominates local tax systems. From the data in table 3, it may be seen that in most cases the property tax is the largest component of the tax system, though for the few cities for which time series data are available, it would appear that the relative importance of the property tax has declined. This is attributable to several factors: the financing pressures on local governments which have resulted from rapid urbanization and 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. However, even with this decline in *relative* importance, the *absolute level* of property taxation has increased substantially.

The intent in this paper is a general survey of the revenue growth, equity, and allocative features of taxes on urban property in these cities. The specific concerns here are with a comparison of the major rate and base features of alternative property tax systems and a description of attempts to use general property taxation to guide the direction and the structure of urban expansion.

These concerns would seem to call for description. Because of a meager comparative literature on this subject, there is a need to provide a cross-section summary of the property tax structures presently in use, with an emphasis on detail and on quantification. Existing surveys of urban property taxation in less developed countries tend to focus on country practices.<sup>1</sup> Since there are wide variations among cities within a country in the specifics of the tax structure and its performance, these surveys are not useful for comparative urban analysis. For example, the systems in Bogota and Cartagena, Colombia are markedly different and

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<sup>1</sup>For a good example of country surveys, see Angel Yoingco, Property Taxation in Asian Countries, Republic of the Philippines, Joint Legislative-Executive Tax Commission (Manila 1971).

TABLE 3  
PERCENT DISTRIBUTION OF LOCAL GOVERNMENT REVENUES

		<u>Non-Tax Revenues</u>	<u>Intergovernmental Revenues and Borrowing</u>	<u>Tax Revenues</u>	<u>Property Tax Revenues</u>
Bogota	(1972)	47.2	39.6	13.2	6.0
Cartagena	(1972/	48.1	29.6	22.3	3.2
	1969) <sup>a</sup>	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
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	(1970)	37.6	---	62.4	9.4

<sup>a</sup>Excluding electricity charges.

the revenue elasticity of the two systems differs and is affected by a different set of underlying factors. A general description of property tax practices in Colombia would miss these features. Indeed, in most developing countries, the capital city is afforded a 'special city' status, and its fiscal structure may differ widely from that observed for other cities in the nation. Particularly for policy purposes, it is important to identify the full range of possibilities within the nation so as to suggest what alternative structural reforms in present systems are feasible.

Accordingly, in the remainder of this paper, we turn attention to a description and comparison of property tax systems, and then to the issues of revenue growth, allocative effects and equity considerations.

## II. COMPARATIVE PROPERTY TAX SYSTEMS

Property tax systems are usually classified as either annual rental value or capital value, with the latter including land or improvements or both. In practice, however, the number of different tax structure possibilities is considerably greater because of wide variations in assessment practices. Such variations are illustrated in the following discussion of assessment practices and rate structures. Attention is then turned to the development of comparative norms for property tax systems.

### Tax Base and Assessment Practices

The property tax base, for residential property, in the case of countries using an annual value system is 'expected' or notional rents. The English courts have described the narrowness of this rent concept...

The rent prescribed by the statute is a hypothetical rent, as hypothetical as the tenant. It is the rent which an imaginary tenant might be reasonably expected to pay to an imaginary landlord for the tenancy of this dwelling in this locality, on the hypothesis that both are reasonable people, the landlord not being extortionate, the tenant not being under pressure, the dwelling being vacant and to let, not subject to any control, the landlord agreeing to do the repairs, and pay the insurance, the tenant agreeing to pay the rates, the period not too short nor yet too long, simply from year to year. I do not suppose that throughout the length and breadth of Paddington you could find a rent corresponding to this imaginary rent.<sup>1</sup>

Among countries using the annual value basis, there are not wide differences in assessment techniques, but there are wide differences in the extent to which these techniques are constrained by institutional factors or by convention. In Singapore, an average rent is estimated for an area--block or neighborhood--and a given type of structure; and

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<sup>1</sup>R. v. Paddington Valuation Officer, *exparte* Peachey Property Corporation Ltd.; reported in The Estate Gazette 19 (1965):993 as cited in The Assessment of Land Value, edited by Daniel M. Holland (Milwaukee, Wisconsin: The University of Wisconsin Press, 1970), p. 65.

this average is taken as the assessment of annual value for all similar properties in the area. If actual rents paid vary about this mean, the residuals are ignored on grounds that the property assessment is on reasonably expected annual rent and that an arithmetic average best approximates the norm. A similar approach to valuing residential property is taken in the Indian cities of Bombay and Ahmedabad.<sup>1</sup> However, in Ahmedabad, owner-occupied residential properties are assessed on yet a different basis--a formula basis which determines rental value per square meter and, it is argued, results in a preferential assessment of owner-occupied properties. Among the important considerations in the formula assessment of owner-occupied dwellings in Ahmedabad are the location of the property within the city, the specific amenities of the property, construction material, ventilation, and carpet area. While there are graduated assessment rates depending on these considerations, the judgment of the assessor plays a major role. In Bombay, while there is no differentiation between owner-occupied and rented properties, properties included under a 1948 rent control ordinance are assessed at the controlled rent amount. Finally, it should be noted that only Bombay among these three cities permits a reduction (10 percent) in assessed value to compensate for the cost of repairs and insurance.

There are similar variations in residential property assessment practices among the cities in this sample which use a capital value basis for assessment. These practices vary from Jakarta and Cartagena, which use a formula basis for assessment of land, to Seoul, which uses a great deal of judgmental valuation evidence.

In Jakarta, properties are classified according to land use (actual and zoned), zone location, and condition of adjacent roads and streets. An assessed value per square meter of land for each of these cross-classifications is read from a Table which serves as a kind of tabular

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<sup>1</sup>See also Rakesh Mohan, "Indian Thinking and Practice Concerning Property Taxation and Land Policies," Discussion Paper 47 (Princeton, N.J.: Woodrow Wilson School-Princeton University, June 1974).

assessment manual. The land values included in this table are not derived from any current land value information nor is the assessment table updated. Hence, the growth in assessed value is almost exclusively from additions of new properties to the tax roles.

A formula assessment method is also used in Cartagena, but differs from the Jakarta system in that it employs current property value data and in that both land and improvements are assessed. In this approach, a 'key' value is identified via comparative sales analysis (by examination of sales records and realtor opinions) in each of some 600 'neighborhood' areas. These key values are then linked with a set of isovalue lines, and assessed values for all remaining properties are interpolated. This assessment method is centrally administered through the Augustin Codazzi Institute in Bogota.

In the case of Seoul, Korea, land and improvements are assessed separately. Land values are assessed by using realtor estimates for each of 70 land 'classes' in some 300 neighborhood areas. Improvements are valued by formula: first, properties are grouped into eight classes according to roof and wall materials; and second, a current construction cost is estimated for each.

The frequency of reassessment also varies widely. In Kingston, assessments occur only with property sales or new construction whereas in Seoul, assessment of every property is made every year. In Cartagena, the practice has been to carry out an overall reassessment every four years. For most other cities in the sample, reassessment is erratic and has not been regularized.

These approaches to valuation are sufficiently different that one would not expect them to result in comparable levels of assessed value, even if applied to the same tax base. Hence, one might argue that there are as many property tax systems as there are cities and that explanation of intercity variations in the equity, elasticity and allocative performance of various systems may have to rest, at least partially, on variations in assessment practices.

### Tax Rates

Cities in LDC's have chosen broad differences in rate structure, and hence, have affected differences in the level of revenues, the elasticity of the system, the distribution of tax burdens, and the incentives to own, maintain, and locate housing. There are five basic patterns for statutory rate schedules--a single proportional rate applied to all properties, a rate which is graduated by assessed value class of the base, a rate which is different for land v. improvements, a rate which differs by location within the city, and a rate which differentiates between renters and owner-occupiers. Most of the cities studied here have developed tax structures which combine two or more of these features.

As may be seen from the data in table 4, there are wide variations in the type of rate structure applied. Bogota, Bombay, Singapore, Kingston, and Hong Kong follow a practice of differentiating among areas within the city by charging a lower property tax rate in the areas where public services are thought to be the poorest, e.g., the outermost suburbs or rural areas. The justification for this practice is that these farther-out locations receive a lower level of services and, therefore, ought to pay property taxes at a lower rate. It would appear, however, that such a practice results in double counting in that lower service levels should already be reflected in lower rental or capital values and, hence, lower assessments. The effects of such a practice are 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 of the pattern of urban development.

In Ahmedabad, Kingston, and Cartagena, the rate structures are graduated by assessment value class in order to build a greater degree of tax burden equity (in an ability-to-pay sense) into the property tax system. The progressivity implied by these graduated rate structures appears greatest in Kingston. However, such piecemeal practices may do less to improve system equity than it would appear. For example, in the case of Ahmedabad, higher income owner-occupiers are given a preferential assessment which effectively increases the overall regressivity of the

TABLE 4

## STATUTORY RATE STRUCTURES FOR SELECTED PROPERTY TAX SYSTEMS

## Capital Value Systems

<u>City</u>	<u>Assessed Value Class</u>	<u>Land</u>	<u>Improvements</u>	<u>Total Tax Rate</u>	<u>Comments</u>
Bogota				.1520	Includes general rate, CAR rate, and refuse collection rate.
Cartegena	US\$ 25.35			.0084	Selected levels of assessed value. Property tax rates estimated at midpoint.
	152.10			.0175	
	381.20			.0140	
	1,776.80			.0135	
	4,568.50			.0127	
	8,121.80			.0130	
	25,380.70			.0125	
	45,685.30			.0126	
	76,142.10			.0124	
	91,370.60			.0121	
Jakarta		.003			Improvements taxed only for industrial and commercial properties.
Kingston	US\$ 0 - 167			0.045	Kingston Parish only.
	168 - 333			0.049	
	334 - 500			0.053	
	501 - 833			0.053	
	834 - 1,667			0.060	
	1,668 - 4,167			0.084	
	4,168 - 8,333			0.103	
	8,334 - 16,667			0.107	
	over 16,668			0.113	
Lusaka		.03	.0085		
Manila City				0.03	
Nairobi		.0375	0		By 1975, the rate had been increased to 5.75 percent.
Scoul		.02	.04		There is also a surcharge on the property tax on improvements which varies from 20 to 80 percent depending on value class.

TABLE 4 - Continued

## Annual Value Systems

<u>City</u>	<u>Assessed Value Class</u>	<u>Land</u>	<u>Improvements</u>	<u>Total Tax Rate</u>	<u>Comments</u>
Ahmedabad	US\$ 0 - 67			0.175	
	68 - 133			0.235	
	134 - 400			0.325	
	401 - 667			0.395	
	over 667			0.425	
Bangkok				.1259 - .13	Improvements are taxed only if structure is rented or used for commercial purposes.
Bombay	Rs 0 - 75			.352	Includes both the BMC 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	US\$ 0 - 133			0.155	Rate reduced to 0.083 percent in unserviced areas and 0.065 percent if water supply not provided.
	134 - 400			0.185	
	401 - 1,600			0.225	
	1,601 - 2,000			0.275	
	over 2,000			0.335	
Karachi	Rs 0 - 2,000			.125	Includes municipal and provincial rates.
	2,000 - 20,000			.150	
	over 20,000			.200	
Singapore				0.36	General rate in the central area; rates vary by location and are as low as 0.12 percent in some areas.

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system and then are subjected to a differentially higher property tax rate which reduces the overall regressivity of the system. Overall, it is not clear how the goal of equity is served under such a system.

Finally, there are rate structure differences in the treatment of the components of the property tax base. Both Lusaka and Seoul tax land and improvements differentially, but Seoul taxes improvements more heavily. This, in theory, suggests that the pattern in Seoul is one of discouraging the optimal allocation of land use by penalizing improvements.

In sum, it would appear that local governments attempt to make rate structure adjustments to achieve both equity and allocative effects, but it appears that these adjustments are made on a piecemeal basis.

In no case examined here is there evidence that the property tax rate, base, exemption, assessment, administration, etc. has been designed in total to achieve a stated set of equity and allocative effects. Because of this, the total distributional effects of the property tax cannot be properly evaluated by separate reference to rate or assessment adjustments.

#### Property Tax Norms

It would be difficult to identify an 'average' or 'normal' level of performance of the property tax for urban governments in LDC's--there is no single comparable compilation of these data. However, on a basis of the data gathered in these case studies, some crude norms begin to emerge.

The level of the property tax base, assessed value adjusted for income level, varies substantially among the cities which use a capital value basis of assessment. From these limited data, a 'normal' assessed value--perhaps measured as a median--would appear to be roughly an amount equivalent to two to two-and-one-half times the level of income (see table 5).

TABLE 5

## COMPARATIVE LEVELS OF PROPERTY TAX EFFORT

<u>City</u>	<u>Per Capita Total Property Taxes</u>	<u>Per Capita Assessed Value</u>	<u>Assessed Value as a Percent of Income</u>	<u>Taxes as a Percent of Assessed Value</u>	<u>Property Taxes as a Percent of Income</u>
Bogota (1971)	\$ 3.49	\$ 653	1.260	0.5	0.6
Cartegena (1972)	2.76	518	2.040	0.5	1.0
Jakarta (1972)	0.35	3	0.020	0.1	---
Kingston (1971)	4.75	90	0.109	5.7	0.6
Lusaka (1972)	9.60	845	5.709	1.1	6.4
Manila (1972)	14.20	1,276	2.463	1.1	2.7
Nairobi (1971)	12.04	317	0.635	3.8	2.4
Seoul (1971)	2.20	840	1.935	0.3	0.5
Tunis (1971)	10.00	143	0.644	6.9	4.5
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
MEDIAN	5.27	137			2.1

On this basis, Jakarta, Kingston, and Bogota show a relatively low level of assessed value<sup>1</sup> while Lusaka has an inordinately high level of assessed property value--a result which indicates that assessment and income levels are negatively related. These differences in the assessed value--income ratio may be translated into a rough measure of property tax effort, i.e., property taxes as a percent of income, through multiplication by the effective tax rate. Since the effective tax rates tend to be higher where assessment levels are higher, the differences in tax efforts are proportionately greater than that in the assessment-income ratio. This result suggests that city property tax effort tends to be higher where city personal income levels are lower.

As among the cities using a comparable rental value system, though a norm is difficult to identify, it would appear that an average assessment level is between 8 and 10 percent of income. The product of these assessment-income ratios and the effective tax rates yeild an index of property tax effort which is roughly comparable to that derived for the capital value cities.

From such a small sample it is difficult to make an inference about 'normal' property tax effort. The median of these 14 cities is 2 percent of income while the (unweighted) mean is 2.2 percent. If an effort ratio of 2 percent is about average, then Bogota, Cartegena, Kingston, Jakarta, and Seoul would appear to make abnormally low property tax efforts relative to their incomes.<sup>2</sup>

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<sup>1</sup>These results are expected for Jakarta and Kingston, which are well known examples of drastic underassessment and infrequent revaluation.

<sup>2</sup>Simple correlation shows a negative relationship between property tax effort and per capita income for these 11 cities, but there are too few degrees of freedom to argue the statistical significance of this result.

### III. 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 6. Because of the wide variation in these growth rates, a 'normal' performance is difficult to identify. However, these data indicate 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. Only in 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.

Ideally, one would like to estimate the long term income elasticity of the property tax for each city, but data problems are severe. Particularly income estimates for urban areas over a necessary time period and disaggregated 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, if at all possible 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.

The approach to which we resort because of inadequate personal income data involves approximating an upper boundary on the income elasticity of the property tax. A revenue-population elasticity, the

TABLE 6

## GROWTH IN PROPERTY TAX REVENUES AND PROPERTY TAX BASE

	Annual Rates of Increase			Population Elasticity <sup>b</sup>			
	Property Tax Revenues	Assessed Value	Prices <sup>a</sup>	Property Tax Revenues		Assessed Value	
				Actual	Real	Actual	Real
Bogota	12.9	19.4	10.5	2.0	0.70	3.7	1.80
Cartegena	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 <sup>c</sup>	2.6	0.47	1.7	0.30
Lusaka	16.3	14.8	6.8	1.2	0.60	1.1	0.50
Nairobi							
Seoul	38.0	31.0	12.0 <sup>c</sup>	4.2	2.50	3.4	1.90
Tunis	4.8	6.8	3.6	1.2	0.30	1.7	0.80
Ahmedabad	5.6	6.7	5.5 <sup>c</sup>	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

<sup>a</sup>The annual increase in prices for the 1964-1970 period is taken from IFC Statistics, Vol. 24, No. 6, June 1971.

<sup>b</sup>Percent increase in property tax revenues (assessed value) per one percent increase in population.

<sup>c</sup>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 was used.

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percent increase in property tax revenues associated with a 1 percent increase in population, 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 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 property tax financing amount available per person, 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 these population elasticities, and therefore the property tax might be judged as relatively 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.

#### IV. EQUITY CONSIDERATIONS

The incidence of the property tax is a subject of much disagreement. The issue is whether that part of the tax which is on improvements is borne by housing owners or by housing occupiers. The most commonly accepted view is that the tax is paid ultimately by occupiers. In the case of urban areas in LDC's, the case for forward shifting would seem particularly strong. The reasons include: (a) large housing shortages and continued heavy migration make it possible for landlords to pass along any cost increases that might result from a property tax increase, (b) the tax is not uniform even within a given metropolitan area because of varying assessment practices and differential rate and base treatment of certain classes of property, (c) governments are major providers of housing and include the property tax explicitly in rents; and (d) where there are rent controls, increases in the property tax may be passed on to renters through an increase in the controlled rent. These considerations lead us to accept the traditional view, that the residential property tax is an excise which is borne in proportion to housing consumption.

In evaluating the vertical equity of various property tax systems, a more equitable system is viewed here in terms of the progressivity of the structure of effective rates, i.e., higher income residents have a greater ability to pay taxes, and an equitable system is one which recognizes this differential.

The relationship of property taxes to income for any family is determined by three factors: (a) the relationship of housing expenditure to income, (b) the ratio of assessed value to total house (or rent) value, and (c) the statutory tax rate. Of these, items (b) and (c) are subject to discretionary control by the local government. Symbolically, for any given income class, (the  $i^{\text{th}}$  class) the tax payment ( $T_i$ ) may be seen as

$$T_i = r_i V_i = r_i \alpha_i \beta_i Y_i$$

where  $r$  = statutory tax rate

$V$  = assessed value

$Y$  = income

The coefficient ( $\alpha$ ) is the assessment ratio, or the assessed value as a percent of market value of housing, and the coefficient ( $\beta$ ) is the ratio of the market value of housing to income. Hence variations in the tax ratio ( $T/Y$ ) across income class may come from variations in  $\alpha$ ,  $\beta$ , or  $r$ .<sup>1</sup>

The assessment ratio may worsen or improve the distributional effects of the property tax if it is not constant across income classes. In the case studies here, the most prominent departure from a constant assessment ratio was preferential assessment of owner-occupiers in Ahmedabad which tends to give assessment relief to higher income owner-occupiers. This feature was not found in any other rental value system, though in two cases, Karachi and Bangkok, owner-occupiers were excluded from the tax altogether. Cities using the capital value system generally assess properties by a market value survey of land or land and improvements, and by formula assessment of housing by construction type. In neither case do obvious inequities arise, though a fairly common assessment bias which exists in most cities in developing countries is under-assessment in the faster growing residential areas of the city. This under-assessment results primarily because of difficulties in updating the roles on a regular basis. In many cases, the rapidly growing and newer areas of the city tend to house higher income residents, hence, assessment lags may increase the overall regressivity of the system.

If the housing expenditure share of family income declines as income rises, with a constant  $\alpha$  and  $r$ , it is a factor which leads to greater overall regressivity. There is much debate over the magnitude of the income elasticity of demand for housing. What little evidence there is on housing expenditures in urban areas in LDC's is not conclusive and in any case the data are suspect because of the incomparability of the income concept across cities. Moreover, inclusions in the income definition used may be inadequate.

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<sup>1</sup>For the moment we ignore variations in collection efficiency across income classes.

Finally the tax burden on families in different income classes will be affected if differential tax rates are applicable. Under rental value systems, the tax rates are often graduated by value class, hence building some progressivity into the system. Capital value systems are less likely to graduate the tax rate by income class, though Kingston is one exception among the cities studies here.

In theory and following the traditional view of property tax incidence, one final adjustment might be made to this discussion--a differentiating of the tax on land from that on improvements. Only the latter is thought to be borne by occupiers while the former is borne by owners. Hence for owners, the discussion above is applicable but must be amended to allow for a differential tax rate and assessment ratio on land ( $r_L$  and  $\alpha_L$  respectively) and improvements ( $r_I$  and  $\alpha_I$ ). Accordingly, for any given income class,

$$T_i = r_{Li} V_{Li} + r_{Ii} V_{Ii} = r_{Li} \alpha_{Li} Y_i + r_{Ii} \alpha_{Ii} Y_i$$

shows the full burden for owner-occupiers. Renters, however, would presumably not pay the land portion of the tax, hence their property tax payment would be simply  $r_I \alpha_I$  with non-occupier owners bearing the remainder. From this we might deduce that for an equal yield capital value tax, a differentially higher tax rate on land will shift a part of the tax burden from renters to landlords. To the extent renters are lower income, this will result in making the distribution of the property tax more progressive. Hence, the system in Lusaka is structured to improve overall progressivity whereas that in Seoul, which taxes improvements more heavily than land, accentuates the regressivity of the property tax system. At the extreme is the land value or site value system which taxes only land, e.g., Nairobi.

## V. ALLOCATIVE EFFECTS

With scarce public sector resources to be devoted to the urban renewal problem 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 in many of these cities which are designed to affect the renewal and maintenance decisions of private owners and developers.

While there is not conclusive, hard evidence that adjustments in property tax structure can significantly effect 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 have features which conceivably: discourage urban sprawl and the continued existence of undeveloped 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 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.<sup>1</sup> Since only land is taxed, owners are encouraged to make optimal use of the land--there is no penalty for improving a property as exists under capital value

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<sup>1</sup>See also J.R. Hicks, Essay in World Economics (Oxford, 1959), and J.R. Hicks and V.K. Hicks, Report on Finance and Taxation in Jamaica.

system. However, it is important that the level of land taxation be high enough to induce land owners to develop.

There is little evidence on the magnitude of the allocative effects of site value taxation, and none of the case study cities employ a pure site value system. However, a sample of data for Nairobi, a city which does use a site value system, enables some estimate of the investment incentive of alternative forms of property taxation.<sup>1</sup> At least in the case of downtown commercial properties, these data would seem to suggest that a switch to an annual value base would have a significant effect on the annual return from properties, particularly for lower valued improvements on prime sites. Taking the case presented above, the tax implications, under a rental value system, of redeveloping the older property by erecting a structure that would yield a rent of KSh 3.5 million annually may be considered. In such a case, the increase in taxes would be an amount equivalent to about 10 percent of the annual return in the higher use. If the owner bears this cost, i.e., if he cannot shift it on in the form of higher rents, the redevelopment incentive effects of such a tax base change may indeed be severe. Significant changes in tax liability result for all commercial properties reported in this sample. By contrast, of the three industrial properties none shows a large increase in its tax liability, owing to some combination of the land intensive nature of their operations and to rental value assessments which do not adequately take into account the yearly earnings attributable to the use of property.

Residential properties also show varied effects, which are primarily dependant on whether the property is rental and multiple unit or single family. Where the property is multi-unit, the rental-site value ratio tends to be greater. Accordingly, multi-unit properties generally fare relatively less well under a rental value system than do single family units.

The results generated above are a reflection of the sample chosen and are heavily influenced by the high-value commercial properties. However, if such a mix of property types is characteristic of the city, the shift

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<sup>1</sup>The results of this analysis are reported more fully in my 1989 Research Project 270.

in tax liabilities could have important equity implications. Though this sample is much too small and nonrandom to warrant a firm conclusion, it would appear that the change from site to rental value studied here would induce a general shift from nonresidential to residential rate payers.

#### Other 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 toward vacant, developable urban properties 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 LDC's to assess vacant land on a separate basis, 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 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 also 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 Bogota, 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 differentially higher rate than land thereby taking on some features of a site value tax. The cities of Lusaka and Abidjan tax improvements at higher rates while Seoul City taxes improvements at a differentially higher rate. A new property tax reform in Manila will have the same undesirable features as the Seoul system. In cities which use an annual value system, the assessment procedure does not allow a differentiating 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 through 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 for owner-occupied units. Still with respect to stimulating investment, it is not an uncommon feature of annual value systems to allow a credit against gross rateable value (usually 10 percent) to offset maintenance costs. However, such a deduction is usually available to all and does not induce maintenance that otherwise would not have taken place.

In at least one case, features were built into the tax system which encouraged higher buildings in designated areas. Singapore's exemption based on building heights is a good example of providing an incentive to a particular kind of redevelopment with the property tax structure. In 1967, a property tax concession was granted for certain commercial and industrial building projects--subject to government approval in each case. The concession amounted to 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 rate remains at 12 percent for a period of 20 years. The initial waiver is in the form of a refund after the building is completed and occupied.

This refund applies to a fixed period, calculated by reference to the number of stories in the building, regardless of the actual construction period, e.g., the full 16 months exemption will apply to a ten-storey building, even if completed in 12 months. Similarly, if a 16-storey building took 24 months to complete, the exemption would only apply to the first 16 months and thereafter the full tax would be payable for the remaining 8 months.

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 further for health and education services, and poorer sewerage and other utility services. One might argue, as above, that such a practice results in a double subsidy in that lower service levels should already be reflected in lower rental values and hence, lower assessments. The net effect of such a 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. Preferential treatment to owner-occupiers is given in some form in most of the cities studied here--particularly Ahmedabad, Karachi, Abidjan, and Bangkok.

## VI. CONCLUSIONS

The analysis here, based primarily on intensive case studies, makes a strong case for comparative analysis of property taxation and is suggestive of intercity variations in property tax effective rate and base levels. And while there are not adequate observations here to firmly identify 'average' or 'normal' performance, there clearly is much opportunity for transfer of experience among cities.

The comparisons in this paper are more descriptive than rigorous analysis of the economic effects of property taxation, but a range of allocative, equity and more purely fiscal effects are suggested by the wide variations in property tax practices in these cities. Local governments in LDC's have made considerable adjustments in their property tax structures in order to achieve certain allocative/equity goals, but 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 these case studies, 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 the dominant local government tax. However, the evidence here indicates that the revenue yield performance of property taxes is weak. Because of data limitations, careful econometric estimation of the income elasticity of the property tax is not possible, but these data do suggest, even if only indirectly, a relatively low income elasticity of property tax revenues. Moreover, in some cities, property taxes have grown at a rate which is even less than the increase in the price level, hence have declined in real terms. In most cases, the growth rate in money terms is clearly less than the growth rate in income, though exact data on the latter are generally not available. This relatively low growth in property tax revenues is due in large 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 small number of cities in this sample precludes establishing a systematic cross-section relationship between the growth in the tax base and either income level or the form of the property tax. This low revenue elasticity of the tax, coupled with increasing fiscal pressures on city governments and increasing pressures on central governments to allocate more aid to rural areas, has resulted in an increased use of various local government sales and use taxes.

No attempt is made here to empirically estimate the distribution of the property tax burden across income classes. Even if the theoretical issues surrounding the debate over the incidence of the tax were solved, there is a paucity of data on both housing consumption expenditures and the distribution of property incomes by income class, and there are not always available surveys to indicate biases in the assessment process. Assuming complete forward shifting of the property tax, there are certain features of the systems studied here which, if viewed partially, suggest discretionary attempts to affect a more equitable distribution of tax burden. These features include progressive statutory rate structures, tax penalties for inordinately large lot sizes, and higher tax rates on more expensive improvements. However, other features of the tax system, e.g., preferential assessment of owner-occupied housing and lower rates on suburban properties, may tend to offset these intended progressivity adjustments.

The property tax practices observed in these case study cities suggest a variety of intended allocative effects. 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 of 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 does the annual value system.

Finally, a basic difference between developed and developing countries in urban property taxation is the aggressive use, in LDC's, of taxes on property to guide and finance development as well as to renew the already build-up areas of the city. Whereas urban property tax policy in the United States is restrictive and probably of secondary importance in managing urban growth, in developing countries it is designed to induce particular forms of development and to finance this development.

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