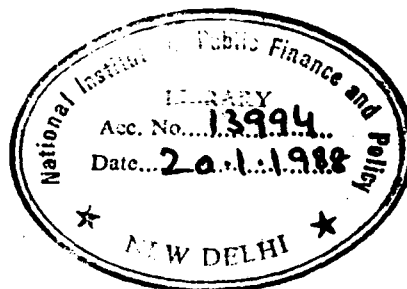PROPERTY TAX REVENUE GROWTH IN TWO

INDIAN CITIES

by

SHYAM NATH AND LARRY SCHROEDER

DECEMBER 1982

NATIONAL INSTITUTE OF PUBLIC FINANCE AND POLICY
18/2, SATSANG VIHAR MARG
SPECIAL INSTITUTIONAL AREA
NEW DELHI 110 067

METROPOLITAN STUDIES PROGRAM
THE MAXWELL SCHOOL OF CITIZENSHIP AND PUBLIC AFFAIRS
SYRACUSE UNIVERSITY
400 MAXWELL HALL
SYRACUSE, NEW YORK 13210
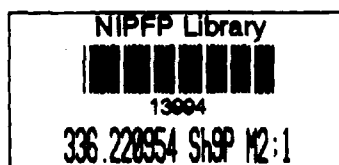
NATIONAL INSTITUTE OF PUBLIC FINANCE AND POLICY
18/2, Satsang Vihar Marg
Special Institutional Area
New Delhi 110 067

R.J. Chelliah   Director

FACULTY ASSOCIATES

A. Bagchi	(Sr. Fellow)	D.K. Srivastave	(Sr. Economist)
V.D. Lall	(Sr. Fellow)	M. Srinivasa	(Sr. Economist)
K.N. Reddy	(Sr. Fellow)	R.L. Chawla	(Sr. Economist)
K. Srinivasan	(Sr. Consultant)	K.K. Atri	(Econometrician)
M.C. Purohit	(Fellow)	J.V.M. Sarma	(Econometrician)
Shyam Nath	(Sr. Economist)	P.K. Aggarwal	(Economist)
Narain Sinha	(Sr. Economist)	Tapas Kumar Sen	(Economist)
M. Govinda Rao	(Sr. Economist)	V.S. Renganathan	(Economist)

RESEARCH ASSISTANTS AND ADMINISTRATIVE STAFF

S. Gopalakrishnan	(Research Asst.)	O.P. Bohra	(Research Asst.)
Vijaya Khari	(Research Asst.)	Gautam Naresh	(Research Asst.)
Ajay Kumar Halen	(Research Asst.)	J.K. Jain	(Admin. Officer)
Sujata Dutta	(Research Asst.)	H.K. Paruthi	(Librarian)

LOCAL REVENUE ADMINISTRATION PROJECT

Roy Bahl (Economics) Director

Country Project Directors

Jerry Miner (Economics)--Upper Volta
David Robinson (Geography)--Peru
Larry Schroeder (Public Administration)--Bangladesh

Faculty Associates

James Alm	(Economics)	Larry Herzog	(Geography)
Ray Bromley	(Public Admin.)	William Mangin	(Anthropology)
Glynn Cochrane	(Anthropology)	Barbara Miller	(Anthropology)
Donald Ely	(Educ. Technology)	Marshall Segall	(Social
David Greytak	(Economics)		Psychology)

Research Associates

Hernando Garzon	(Social Sciences)	Robert Hall	(Rural
Nilgun Gokgur	(Inter. Relations)		Sociology)
David Spetka	(Public Admin.)		

Research Assistants

Libby Dalton	(Public Admin.)	Hasan Murshed	(Economics)
Richard Joseph	(Public Admin.)	M. Muin Uddin	(Economics)
Showkat Khan	(Anthropology)	James Wozny	(Economics)
Ranjana Madhusudhan	(Economics)		

Consultants

Fernando Bertoli	(Computer Sci.)	Daniel Holland	(Economics)
Sandra Bertoli	(Computer Sci.)	Kenneth Hubbell	(Economics)
Fred Burke	(Pol. Science)	Michael Wasylenko	(Economics)
Nicolas Garvielides	(Anthropology)		

FOREWORD

With cities throughout the world facing increasing
public spending pressures due to inflation, population growth
and rising demands for services, it is crucial that revenues,
too, grow. One such local revenue source of importance to
urban governments in India is the property tax. This paper
analyzes the growth performance of the property-based levy in
two major Indian cities - Delhi and Madras - during the 1970s.

The structure of the tax, including the definition of
the taxable base, the tax rates imposed, and the general
performance of the revenues actually realized from the levy
are all described. Attention is then turned to the buoyancy
of the components of the tax system - responsiveness of the
assessed values to indicators of the taxable base, responsive-
ness of collectible to changes in the tax base and the relation
between actual collections and potential collections.

The findings suggest that, while the tax in these
two cities has grown, problems remain. Assessment processes
could be improved, translation of assessed values into tax
demand is not reflective of the statutory rates in effect
and the tax collection process needs strengthening. These
features are primarily administrative in nature and suggest
that the principal weakness of the tax in these two Indian
cities lies in that area rather than with the underlying
structure of the tax.

The work here stems from an exchange arrangement
between the National Institute of Public Finance and Policy
(N.I.P.F.P.) in New Delhi and the Metropolitan Studies

Program. Larry Schroeder, Professor of Public Administration
and Economics and Senior Research Associate of the Metropolitan
Studies Program spent a month at the N.I.P.F.P. during 1979
under joint sponsorship of Syracuse University and the
N.I.P.F.P. Shyam Nath then spent the 1979-80 academic year
in residence at the Metropolitan Studies Program as a visiting
scholar. He is currently a Senior Economist at the N.I.P.F.P.

                        Roy Bahl
                        Director,
            Metropolitan Studies Program

                        (v)

Table of Contents

List of Tables

(vii)

PROPERTY TAX REVENUE GROWTH IN TWO INDIAN CITIES

Several criteria must be judged when evaluating a
property tax system. Among these are the neutrality of the
tax, its equity implications, the certainty of the tax, its
administrative costs and its growth or responsiveness to
increases in local incomes and prices. While none of these
goals is dominant and they often conflict, the growth cri-
terion is of particular interest in this paper. The property
tax has traditionally been a principal revenue source of
localities throughout much of the world and is likely to
remain so. As the spending needs of these localities expand
in the face of increasing populations, rising prices and
increased demands for public services, property tax revenues,
too, should grow.

This argument is certainly applicable to cities in
India. As the data in Table 1 suggest, six major Indian
cities had per capita revenue expenditures in 1978-79 three
to five times larger than the levels experiences in 1960.
These increases were likely due to a combination of factors
including general price increases, increased population
density and greater demands for public services as income
levels grew. Yet, regardless of the cause, the implication
is clear - if urban spending is to continue to grow, its
revenue base must also expand.

When one considers the revenue sources upon which
such growth must depend, it is obvious that the property
tax must bear a large share of the load, at least in some
Indian cities. Table 2 shows the relative proportion of
total taxes attributable to the property tax in 1977-78.

TABLE 1

Per Capita Revenue Expenditure Growth
in Six Indian Municipal Corporations,
1960-61 - 1978-79

Municipal corporation	Per capita revenue expenditure (rupees)		Growth rate[a]
	1960-61	1978-79	
Calcutta	24.95	75.59	6.3
Bombay	39.62	184.40	8.9
Delhi	27.94	119.54	8.4
Madras	23.60	56.65	5.3
Ahmedabad	31.24	166.60	9.7
Bangalore	17.79	82.77	8.9

[a] Compounded average annual growth rate. Source: Central Statistical Organization, Annual Statistical Abstracts, (Delhi, 1979).

TABLE 2

Property Tax Share of Total Local Tax
Revenue in Six Indian Cities,
1977-78

Corporation	Property tax as per cent of total taxes
Calcutta	82.62
Bombay	62.35
Delhi	42.45
Madras	71.26
Ahmedabad	33.03
Bangalore	27.87

Source: Central Statistical Organization, Annual Statistical Abstracts (Delhi, 1979).

The cities of Calcutta, Madras and Bombay are especially reliant upon a bouyant property tax system to support the continued pressures for increased expenditures.[1]/

This paper examines the recent history of the property tax in two Indian cities - Delhi and Madras. Neither of these cities represents extremes in its reliance upon property-based levies (Table 2) and thus/are reasonably representative cases.

We begin by describing the statutory features of the Indian property tax in general, followed by a description of the tax in Delhi and Madras. Next we analyze the growth performance of the major determinants of the local tax yield for the period of 1970-1978. From these results we draw several implications regarding urban property tax administration including specific policy recommendations.

Conceptual Basis of the Property Tax

There are three principal features of any property tax system, indeed of any tax system, that are of interest-definition and determination of the base, the rate structure and collection efficiency. Thus, in general terms

$$B = aV \qquad\qquad (1)$$
$$T = rB \qquad\qquad (2)$$
$$T^* = cT \qquad\qquad (3)$$

---

[1]/ For an in-depth analysis of the property tax in Calcutta, see Shyam Nath, Metropolitan Growth and Management in India with Reference to Local Finance - A Case Study of the Property Tax in Calcutta, Paper presented at the conference on Urbanisation and National Development, East West Centre, Honolulu (Hawaii, USA), January 25-29, 1982.

where

    V : value of property
    a : assessment rate
    B : tax base (taxable value)
    r : tax rate
    T : collectible taxes
    c : collection rate
    T*: actual tax collections.

The value of the property, V, may be defined statu-
torily to be either annual rental value (as is the case in
India) or the capital value. Furthermore, this simple
formulation can be made more complex via disaggregation into
different property types or value classes if the assessment
or rate structure is so designed.

A study of the growth implications of a property tax
system will then need to consider (i) how V changes over time,
(ii) the assessment process and rate, a, picks up changes in
V, (iii) how the rate structure captures changes in B (or if
rates were altered over time), and (iv) how successful the
collection administration has been in ultimately collecting
the amounts legally due the taxing jurisdiction.

Assessment practices, rate structure and collection
efforts are, therefore, co-equal keys to successful growth
performance of the property tax. Below we consider each
of these factors, first for Delhi, and then for Madras.

Property Taxation in Delhi

Delhi is overseen by 3 municipal authorities, namely,
the Municipal Corporation of Delhi (MCD) 320 square miles,
the New Delhi Municipal Committee (NDMC) 5 square miles and
the Delhi Cantonment Board (DCB) 8 square miles. The NDMC
has jurisdiction over the area of New Delhi where almost
80 per cent of the houses are government-owned.The DCB covers the
military post which is almost totally government owned.
Given the preponderance of government-owned property in these
two areas, we confine our analysis to the MCD.

The property tax in Delhi consists of a general tax, water tax
(which cannot be levied unless a water connection is provided),
scavaging tax (which cannot be levied unless the service is
provided to the area) and a fire tax. Furthermore, an
education cess was imposed at the rate of 1 per cent of
rateable value in 1978-79.

Tax Base

The tax base is the annual rental value of property
with an allowance towards repair costs, insurance, etc.
of 10 per cent. Furthermore, the rateable value also varies
depending upon whether properties are rental, self-occupied
or vacant.

For rental property

$$B_R = 0.9 \, V_R$$

where

B_R = tax base or rateable value of rental property

V_R = annual rental value of rented property

The annual rental value is the rent which the building might reasonably be expected to be let. Information on rents is obtained from declarations made by the owners of the property. When the rent declared by the houseowner is deemed to be inaccurate, rents are estimated. The estimates are based on data collected by the Tax Department which show actual rents prevailing in that area as determined from inspection of a randomly selected sample of properties. In cases where the rent has been fixed in accordance with the Rent Control Act, the standard rent fixed by the Rent Controller is taken to be the annual rental value. Where a tenant has further sublet the property and the rent paid by the sub-tenant is more than what is being paid by the tenant, the rent paid by the sub-tenant is taken into consideration for the purpose of determining the rateable value.

For self-occupied properties being assessed for the first time, the rateable value is determined on the basis of the cost of construction and the value of the land at the start of the construction. The base here is

$$B_O = 0.9 \ (.075 \ V_c) \ \text{if} \ B_O < 1,200$$

or, $$B_O = 0.9 \ (.08625 \ V_c) \ \text{if} \ B_O > 1,200$$

where,

B_O = rateable value of owner-occupied property

V_c = cost of construction plus land value

That is, the rental value is inferred from the capital value of the property using rates of return of 7.5 or 8.625 per cent. The differential rates of return have the potential non-neutrality of encouraging lower construction quality in marginal cases.

In cases where the property was earlier let,

$$B_o = 0.8 \ V^*_R$$

where V^*_R is past rents [2]

The rateable value of vacant lands which are capable of being built upon or on which a building is in the process of construction is fixed at 5 per cent of the estimated capital value of such land.

$$B_v = .05 \ V_c$$

The 5 per cent rate of return is lower than that for newly-constructed, self-occupied properties therefore has the potential of discouraging development.

All the properties are reassessed every three years. Since there are a large number of lower value properties, there is a special assessment procedure in the case of properties with rateable values of Rs 2,000 or less wherein the reassessments are generally completed in a summary manner as far as possible without calling the assessee to the assessor's office.

_____

[2] Prior to 1978 the self-occupancy rebate was to be in the range of 15-25 per cent but was uniformally set at 20 per cent on April 1 of that year. See Municipal Corporation of Delhi, Assessment and Collection Department, Property Tax, 1978 (Delhi, 1978).

. Tax exemptions are given to charitable, religious, and educational institutions. Additionally, self-occupant assessees with rateable value below Rs 100 who own not more than one such property are exempt from the tax.

Tax Rates

Once rateable values have been determined, application of the appropriate tax rates yields tax liabilities. The structure of these rates in the DMC is rather complex and has changed considerably over time.

A history of rate structure changes is presented in Table 3. Until recently, the property tax rates in Delhi were the lowest among major Indian cities. Before 1968 there was no differentiation between residential and commercial properties with the total rate summing to only 15½ per cent of the rateable value. Differentiation between residential and commercial properties was introduced in 1968-69 with different progressive rate schedules for residential and commercial properties. Presumably, the higher rates on commercial properties were based on an ability-to-pay principle. Until 1972-73 the rate structure corresponded to a lump sum progression, i.e., the entire property was taxed on the rate fixed for the slab in which the rateable value of the property fell. Progressive marginal rates were introduced in 1972-73 and, except for 1976, have been continued to the present with differentiation made between residential and commercial properties.

In general, tax rates were being increased since
1959 although there were some examples of declines for parti-
cular brackets. These statutory changes should have promoted
growth in tax revenues. Furthermore, the progressive rate
schedule would contain built-in revenue growth if assessed
values are raised as the general level of prices increases.
This factor, of course, depends upon the assessment process.
Finally, tax revenues should grow as the number of taxable
properties increases due to discovery of such parcels or
new construction.

An indication of the magnitude of these effects is
seen in Tables 4 and 5 for residential and commercial
property, respectively. Interestingly, the number of resi-
dences increased by over 19 per cent between 1974-75 and
1977-78 while the number of commercial properties declined
by nearly 25 per cent.[3/] Since the decline was almost totally
limited to the lowest valued commercial properties, the
large rate of increase in the 25,000 rupees or above class
allowed total commercial rateable value to increase by 53
per cent while total residential rateable values were incre-
asing by only about 29 per cent.

The slab-wise distributions of rateable values of
residential and commercial property show some interesting
differences. Highest valued residential properties, i.e.,
those greater than 25,000 rupees, contributed less towards
total rateable value in 1977-78 than in 1974-75 in spite
of the fact that the number of such properties increased
by nearly 60 per cent (Table 4). On the other hand, the

3/ During the emergency a large number of small shops were
   demolished in selected areas of the city accounting for
   much of this decline.

TABLE 3

Property Tax Rates in Delhi, 1959-1978

(Rates per cent)

Year	Rateable value (Rs thousands)	General tax		Water tax	Scavenging tax		Fire tax	Total	
		Residential	Commercial		Residential	Commercial		Residential	Commercial
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1959-63	All	10	10	3	1	1	½	14½	14½
1963-68	All	11	11	3	1	1	½	15½	15½
1968-69	Up to 1.8	10	16	3	1	5	½	14½	24½
	1.8-8	11	16					to	to
	8-12	12½	18					24½	35½
	12-20	15	21						
	20-40	17	23						
	40-100	19	25						
	100+	20	26						
1969-72	Up to .6	10	15	5	1	5	½	16½	25½
	.6-2	12	16					to	to
	2-8	12	18					28½	40½
	8-12	14	21						
	12-20	17	25						
	20-40	20	30						
	40+	22	30						
	Marginal Rate								
1972-76	Up to 1	10	15	5	1	5	½	16½	25½
	1-2	12	18					to	to
	2-8	15	21					31½	39½
	8-12	20	26						
	12-20	25	28						
	20+	30	30						

TABLE 3 (Contd.)

Year	Rateable value (Rs thousands)	General tax		Water tax	Scavenging tax		Fire tax	Educa-tion	Total	
		Resi-dential	Commer-cial		Resi-dential	Commer-cial			Resi-dential	Commer-cial
1976-77	All	12½	18	5	1	5	½	-	19	28½
	Marginal Rate									
1977-78	Up to 1	10	15	5	1	5	½	-	16½	25½
	1-2	11½	18						to	to
	2-5	12½	18						31½	40½
	5-10	15	18							
	10-15	18	20							
	15-20	20	23							
	20-30	25	27							
	30+	25	30							
1978+	Up to 1	10	15	5	1	2½&5*	½	1	17½	24&26½*
	1-2	11½	15						to	to
	2-5	12½	18						32½	39&41½
	5-10	15	18&22*							
	10-15	18	20&26							
	15-20	20	23&28							
	20-25	25	27&30							
	25+	25	30							

* The lower rate is applicable to restaurants, eating houses, nursing homes, institutions shops, etc., while cinema houses, hotels, industrial holdings, etc., are liable for the higher rate.

Source: Rakesh Mohan, "Indian Thinking and Practice Concerning Urban Property Taxation and Land Policies," Discussion Paper No. 47, Research Program in Economic Development (Princeton NJ: Princeton University, 1979).

TABLE 4

Number of Residential Properties and Rateable Value in the Municipal Corporation of Delhi

Slabs rateable value (rupees)	Number		Rateable value (rupees in lakhs*)		Cumulative distribution of rateable values	
	1974-75	1977-78	1974-75	1977-78	1974-75	1977-78
Up to 1,000	1,72,681	1,93,430	731	810	15.9%	13.3%
1,001 - 2,000	43,636	52,836	566	720	28.2	25.1
2,001 - 5,000	32,513	45,198	963	1,370	49.1	47.6
5,001 - 10,000	15,667	19,009	916	1,498	69.0	72.1
10,001 - 15,000	3,318	5,619	474	674	79.3	83.2
15,001 - 20,000	1,399	2,113	247	335	84.7	88.7
20,001 - 25,000	559	652	134	202	87.6	92.0
25,001 and above	1,056	1,649	569	486	100.0	100.0
TOTAL	2,70,829	3,20,506	4,600	6,095		

* One lakh equals one hundred thousand.   Source: Municipal Corporation of Delhi.

TABLE 5

Number of Commercial Properties and Rateable Value
in the Municipal Corporation of Delhi

Slabs rateable value (rupees)	Number		Rateable value (rupees in lakhs)*		Cumulative distribution of rateable value	
	1974-75	1977-78	1974-75	1977-78	1974-75	1977-78
Up to 2,000	50,852	29,737	282	236	18.4%	9.9%
2,001 - 5,000	6,159	11,102	211	326	32.2	23.6
5,001 - 10,000	3,268	3,656	275	259	50.2	34.4
10,001 - 15,000	2,189	1,600	192	187	62.7	42.2
15,001 - 20,000	755	664	124	112	70.8	46.9
20,001 - 25,000	293	332	66	77	75.2	50.2
25,001 and above	856	1,217	380	1,189	100.0	100.0
TOTAL	64,372	48,308	1,530	2,386		

* One lakh equals one hundred thousand.   Source: Municipal Corporation of Delhi.

analoguous contribution by highest-valued commercial proper-
ties approximately doubled from about 25 to nearly 50 per
cent. Of most relevance for the growth potential of the
property tax is that, with about 50 per cent of all commer-
cial parcels already in the highest rate bracket, the progre-
ssivity of the rate structure will slowly lose importance.

For the period of 1970-78 average rateable value of
residential and commercial holdings increased at an annual
compounded rate of 6.57 per cent. While this growth indicates
that some re-assessment is occurring and possibly that new
higher valued properties were being added to the tax roll, it
is considerably less impressive when compared with general
increases in prices. For example, during the 1970-78 period,
the cost of construction index rose at an annual compounded
rate of 9.61 per cent. Likewise, the consumer price index
for industrial workers increased during that same period
at a 9.09 per cent rate. [4/] Thus, in fact, the growth in
rateable values has lagged that of two common indicators
of prices.

Collections

Observing growth in the taxable base and tax demand
is only half the story when assessing the growth performance
of a tax. The bottom line is whether the collectible taxes
ever, in fact, show up in the local government treasury.

[4/] The construction cost growth rate is computed for the
period of 1971-1978 and was obtained from the Government
of India, National Building Organization, Handbook of
Housing Statistics (1980). The consumer price index
growth rate is based on 1970-78 data and refers to cost
of living for industrial workers as published by the
Central Statistical Organization, Annual Statistical
Abstracts.

The data in Table 6 suggest that for Delhi collection success has been mixed. Overall collection efficiency has hovered around 50 per cent during the time period covered. One implication of this record is that it is here that may be the greatest effort should be put forth in order to improve the revenue performance of the property tax in Delhi.

In spite of this collection record, the Delhi property tax has proved to be a consistent performer in terms of the overall local finance structure of the Corporation. Table 7 shows that in 1977-78 the property tax provided over 30 per cent of total revenue expenditures compared to only 23 per cent in 1970-71. Similarly, its relative importance in the local tax structure strengthened to the point where it was contributing over 42 per cent of total tax revenues. Thus, its overall performance cannot be judged a disaster.

Property Taxation in Madras

The Madras Metropolitan Area covers an area of about 1150 square miles with Madras City encompassing only about 50 square miles of this area while accounting for 75 per cent of the metropolitan population. In addition to the Madras Municipal Corporation (MMC), the metropolitan area includes 3 municipalities, one cantonment and 24 lower panchayats as its local governing bodies.

We are here concerned only with the property tax system employed in the MMC. The property tax system in MMC consists of a general tax and water, scavenging, drainage and lighting taxes. In addition, there is an education cess.

- 16 -

TABLE 6

Property Tax Demand and Collection in the Municipal Corporation of Delhi[*]

(Rs in lakhs)

Year	Arrear			Current			Total		
	Demand	Collection	Percent	Demand	Collection	Percent	Demand	Collection	Percent
1965-66	215	61	28	245	166	68	460	227	49
1970-71	392	159	41	555	339	70	947	549	58
1975-76	1181	388	32	1098	890	81	2279	1279	56
1976-77	1345	207	15	1084	685	61	2459	892	36
1977-78	1678	467	28	1264	872	69	2942	1339	46
1978-79	1675	530	32	1327	927	68	3002	1456	48

[*]

General tax and fire tax of private properties only.   Source: Municipal
                                                                       Corporation of
                                                                       Delhi.

Note: Figures supplied by the MCD office do not tally with the
      budget figures.

TABLE 7

Revenue Expenditure and Property Tax Revenue
in the Municipal Corporation of Delhi

Year	Revenue expenditure	Tax revenue	Property tax revenue	Property tax as per cent of	
				Revenue expenditure	Tax revenue
1970-71	2656	2036	613	23.1	30.1
1971-72	2703	2160	650	24.1	30.1
1972-73	3103	2507	808	26.4	32.2
1973-74	3301	2764	902	27.3	32.6
1974-75	3411	2764	1010	29.6	36.5
1975-76	4081	3089	1397	34.2	45.2
1976-77	4569	3025	994	21.8	32.9
1977-78	4993	3571	1523	30.5	42.6

Source: MCD Annual Budgets.

Tax Base

As in the case of Delhi, the property tax base in
Madras is the annual rental value of the property with a
depreciation allowance of 10 per cent.

$$B_R = 0.9 \ V_R$$

In those cases where the market rent method of
valuation cannot be used, e.g., for owner-occupied residences,
the method of "deduced value" is used. This approach assumes that
the annual value is 6 per cent of the estimated market value
of the land and the cost of reconstruction of the improve-
ments. Again, a 10 per cent depreciation offset is allowed.

$$B_O = 0.9 \ (0.06 \ V_C)$$

Although the statute does not mention it specifically, self-
occupancy relief of up to 25 per cent is also provided on a
discretionary basis. This discretion, of course, violates
the certainty principle of taxation and can lead to inequi-
ties in the tax.

Vacant land is also taxed in Madras, but the levy
is not based on the value of these vacant parcels. Instead,
a flat fee is charged at the maximum rate of Rs 8 per plot.
Of this Rs 4 is for general purposes, Rs 3 for water and
drainage and Rs 1 for lighting.

Tax Rates

The tax rate is progressive, ranging between 15½ and 25 per cent (Table 8). Since the water, drainage and lighting taxes are fixed percentages, the progression is due to graduation in the general rate structure. If the education tax of from 4 to 5 per cent is also included, the tax rate range becomes 19½ - 30 per cent. There has been only one minor change in the tax rates since 1960-61. In 1968-69 the two maximum slabs, Rs 5,001-7,000 and Rs 7,001+ were combined to give one slab, Rs 5001+ thereby increasing the effective rate.

One feature of MMC property tax system is that there is no tax rate distinction between residential and nonresidential properties. In the case of hotels and theatres formulae are used for determining rateable value by taking into account gross income and the occupancy ratio. Still, the tax rate on these properties is the same as that applied to housing and other commercial property. The rationale behind the lack of any rate differentials may be that use differentials are already reflected in the rental values.

The distribution of rateable value for residential and commercial property is not available for the MMC, probably because the corporation does not discriminate between the properties on the basis of use. However, the distribution of the number of properties and the tax demand reveal that whereas 43 per cent of the assessees fell in the slabs up to Rs 1,000, only 5 per cent of the total tax demand was generated in these slabs (Table 9). The properties with rateable value above Rs 5,000 (less than 13 per cent of the total) contributed 63.5 per cent of the total tax

TABLE 8

Property Tax Rates in Madras Municipal Corporation

(in percentages)

Rates of	Rateable value			
	Rs 500 or less	Rs 500- 1,000	Rs 1,000- 5,000	Greater than Rs 5,000*
Property tax:				
General tax	5	10½	12	14½
Water tax and drainage tax**	7	7	7	7
Lighting tax	3½	3½	3½	3½
Total	15½	21	22½	25
Education tax	4	4½	5	5
TOTAL	19½	25½	27½	30

* Until 1967-68, this class consisted of two classes: Rs 5,000 - 7,000 and above Rs 7,000.

Source: Madras Municipal Corporation.

** Water tax at 1 percent; drainage tax at 6 per cent.

demand. As in the MCD, the MMC's graduated rate structure is likely to have less significant growth implications due to the concentration of rateable values in the highest slab.

Even with a systematic quinquennial reassessment cycle, with 20 per cent of the properties reassessed each year, property values in Madras have lagged behind the trends observed in the market values of property and the general price level. Whereas the average rateable value has increased at an annual compound rate of about 6.5 per cent, the cost of construction index and the consumer price index for the Madras City increased at the rate of 9.33 per cent and 9.06 per cent per annum respectively during 1970-78.[5] Furthermore, during the last 10 years, land prices in Madras have increased about five-fold.

Collections

Collection efficiency in Madras remained remarkedly stable during the 1970s (Table 10). Collections on current demand never fell below 60 per cent and, when combined with collections on arrears, gave an overall collection efficiency that fell below 50 per cent only in 1972-73. Nevertheless, as in the case of Delhi, further improvement in collection efficiency might be seen as a primary goal of the Madras system.

Overall performance of the property tax in Madras can be observed in Table 11. Property taxes grew from 64.8 per cent of the total tax collections in 1970-71 to over 71 per cent in 1977-78. In terms of the overall revenue expenditure there was an even greater increase-from 43 per cent

---

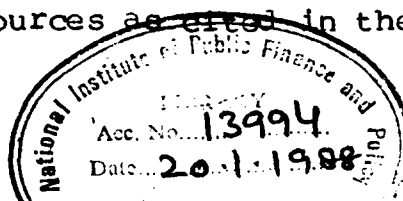5/ Based on the same sources as cited in the previous footnote.

TABLE 9

Property Tax Demand in Madras
(Slab-wise: 1976-77)

Slab	Properties		Tax demand	
(Rupees)	Number	Per cent	Amount*	Per cent
500 and below	33,177	23.3%	Rs 19	1.4%
501 - 1,000	28,701	20.1	59	4.2
1,001 - 5,000	62,917	44.1	439	30.9
5,001 - and above	17,885	12.5	902	63.5
TOTAL	142,680	100.0	1419	100.0

* Rupees in lakhs.

Source: Government of Tamil
Nadu (1978), High
Level Expert Rep
on Madras Corporat-
ion Administration
Vol. II, p.303.

TABLE 10

Property Tax Demand and Collection Madras Municipal Corporation

(Rs in lakhs)

Year	Arrear			Current			Total		
	Demand	Collection	Per cent	Demand	Collection	Per cent	Demand	Collection	Per cent
1970-71	Rs 359	Rs 126	35	Rs 641	Rs 425	66	Rs 1000	Rs 551	55.1
1971-72	488	173	35	725	471	65	1213	644	53.1
1972-73	620	172	28	768	479	62	1388	651	46.9
1973-74	765	275	36	819	557	68	1584	832	52.5
1974-75	787	308	39	923	634	69	1710	942	55.1
1975-76	829	316	38	1082	738	68	1911	1054	55.1
1976-77	921	383	42	1263	818	65	2184	1201	55.0

Source: Madras Municipal Corporation.

TABLE 11

Tax Revenue, Expenditure and Property Tax
Madras Municipal Corporation

(in lakhs)

Year	Revenue expendi-ture	Tax revenue	Property tax revenue*	Property tax as per cent of	
				Revenue expenditure	Tax revenue
1970-71	Rs 1277	Rs 850	Rs 551	43.1%	64.8%
1971-72	1616	953	644	39.8	67.6
1972-73	1610	979	651	40.4	66.5
1973-74	1879	1183	832	44.3	70.3
1974-75	1848	1335	942	51.0	70.6
1975-76	1683	1430	1054	62.6	73.7
1976-77	1861	1677	1201	64.5	71.6
1977-78	1773	1611	1148	64.7	71.3

*   Includes education cess.   Source: Madras Municipal
                                               Corporation.

in 1970-71 to nearly 65 per cent in 1977-78. Obviously, non-
tax revenues and intergovernmental aids were losing in rela-
tive importance during this period.

Analysis of Growth Factors

As was noted in the introduction, growth in property
taxes is our concern here. While one can simply look at
average annual growth rates in tax yields, it is more instruc-
tive to consider such growth relative to the growth in the
variables that constitute measures of demand for the expendi-
tures for which the property tax is used-population, income,
etc.

Elasticities are sometimes used for this purpose
where the data used have had the effects of all discretionary
policy changes removed. [6/] In the case of the property tax,
however, it is difficult, and possibly not desirable, to
attempt to remove discretionary effects since the base of
this tax is the result of discretionary policy actions in
the form of assessment decisions. Thus, here we concentrate
instead on buoyancy coefficients. [7/]

6/ An elasticity coefficient refers to the ratio of the
   percentage change in one variable, e.g., revenues,
   relative to the percentage change in a second variable,
   e.g., income.

7/ The buoyancy coefficient also indicates the per cent
   change in the dependent variable in response to a 1 per
   cent change in the explanatory variable but cleaning for
   discretionary changes is not done. One argument for such
   an approach is that reassessment of older properties is
   anologous to increase in tax rates rather than as automatic
   increases in response to economic growth. This was put for-
   th by Selma J Mushkin, Property Taxes: The 1970 Outlook
   (Chicago: The Council of State Governments, October,1965),
   p. 14 (taken from Gale, Bradley Thomas, The Effect of
   Income Elasticity of Tax Yields on Expenditure Growth: A
   State Local Analysis Rutgers: The State University, Ph.D.
   Thesis, 1968, p. 12). This is true particularly when the
   existing tax rate is already high and the additional
   revenue requirement is met by revising the assessment
   figures frequently.

Although it is possible to determine buoyancy coeffi-
cients for total property tax revenues with respect to income,
population, etc., it is more instructive to decompose the
effect into its constituent parts. The current yield from a
property tax can be written as [8]

$$PT = \frac{PT}{CD} \cdot \frac{CD}{RV} \cdot \frac{RV}{AV} \cdot AV \qquad (4)$$

where

PT = property tax collections
CD = current demand
RV = rateable value (tax base)
AV = annual value

The right hand side of this equation is simply PT when all
multiplications are carried out; but the expression makes
explicit the various aspects of the property tax system there
as well. This first term, PT/CD, is collection efficienty;
CD/RV is the tax rate; RV/AV is the assessment ratio.

In order to examine the performance of the property
tax systems of Delhi and Madras we investigate three different
types of buoyancy coefficients. The first relates rateable
value to annual value, i.e., a tax base buoyancy measure;
the second relates current demand to rateable value, i.e.,
a tax rate buoyancy measure; and the third relates tax
collection to current demand, i.e., a tax collection
buoyancy measure. All estimates are based on double log
ordinary least squares regressions using 1970-71-1977-78
data.

8/ Johannes F Linn, "The Incidence of Urban Property Taxa-
   tion in Columbia," in The Taxation of Urban Property in
   Less Developed Countries, edited by Roy W Bahl, (Madison,
   Wisc.: The University of Wisconsin Press, 1979)
   pp. 87-88.

Tax Base Buoyancy

Ideally one would regress rateable value on actual
annual value to measure how well the assessment process
captures changes in the statutory base of the tax. Since
annual rental values are not available, proxy variables
must be used. One such proxy is City Domestic Product (CDP).
Since rents are likely to be sensitive to the demand pressures
associated with population growth, we also examine the rela-
tion between rateable value and population. A buoyancy coeffi-
cient greater than unity indicates that the actual property
tax base has grown more rapidly than these two indicators of
rental value.

The rateable value buoyancy estimates shown in
Table 12 suggest that, at least when measured in nominal
terms, the tax base in both Delhi and Madras performed
well with respect to population. A growth of population of
one per cent is accompanied by more than two per cent growth
in rateable value. This buoyancy in rateable value would
have resulted either from additional supply of housing
responding to demand from the expanding population or because
of property values which grew due to a demand-supply imbalance
or because both factors were at work. When CDP is used to
represent changes in property values, the tax base buoyancy
fell below unity in Delhi and only slightly exceeded one in
Madras.

When rateable values are deflated to remove the
effect of general inflationary pressures, the buoyancy
coefficients are considerably smaller. Rateable values
failed to keep pace with population growth in both cities.

TABLE 12

Estimated Buoyancy of Rateable Values

With respect to	Buoyancy of nominal rateable value	
	Delhi*	Madras**
Population	2.80	2.68
CDP	0.84	1.07
	Buoyancy of real rateable value***	
Population	0.69	0.77[@]
Real CDP****	0.56	0.94

* Based on double log regressions, 1970-71-1977-78.

** Based on double log regressions, 1970-71-1976-77.

*** Deflated by the consumer price index for industrial workers.

**** 1960-61 prices.

[@] Only this coefficient is not significant at least at the .10 level of significance.

- 29 -

The smaller buoyancy coefficients associated with real CDP than with nominal CDP reflect a more rapid increase in the implicit CDP deflators than in the CPI used to deflate rateable values.

These results show that changes in the market value of properties have been only partially transmitted to the rateable value of property. One reason for this is that the rateable values of the two cities appear to be grossly underestimated. The degree of underassessment (u) can be measured as one minus the assessment rate, the latter being the proportion of RV to market value (MV). That is,

$$u = 1-(RV/MV) \qquad (5)$$

While reliable data on MV are difficult to obtain, information on consideration paid for sale/transfer of properties available in the records of the Office Registrar, Registration can be used as a proxy for MV. Unfortunately, information on sales price as declared in the registration deeds may also be unreliable because prices are often depressed in order to evade taxes. But a rough estimate of the extent of understatement involved in the property transactions can be ascertained using transacted values as estimated by the valuation cell of the Income Tax Department. The extent of understatement in the property transactions was estimated to be of the order of 46 per cent in 1977-78.[9] If the reported consideration paid for the property is denoted MV_c and the estimated value determined by the valuation cell is MV_v, relation (5) can be written as:

$$u = 1 - (RV/MV_c)(MV_c/MV_v) \qquad (6)$$

_____

[9] A N Prabhu, "Valuation of Property," Economic Times (1981): 4.

Although the base of the property tax is assessed annual rental value, it should be related to capital value (MV). If i represents rate of capitalization, then

$$AV = i \, (MV) \qquad\qquad (7)$$

Here AV represents the portion of MV of the property which can be treated as the annual return on that property in the form of rent. Now applying i to MV_c and MV_v, AV_c and AV_v can be derived and relation (6) can be rewritten as

$$u = 1 \; (RV/AV_c) \; (AV_c/AV_v) \qquad\qquad (8)$$

In order to estimate (RV/AV_c), a sample of 78 transacted properties was selected on a random basis and information on RV and MV_c was obtained from the Office of the Municipal Corporation of Delhi and the Registrar, Registration, respectively. Assuming a capitalization rate of 10 per cent (i.e., i = 0.10), the value of (RV/AV_c) was calculated to be equal to 0.24. Under the assumption that reported sales prices are 54 per cent of actual sales prices, AV_c/AV_v equal 0.54. These results lead to the under-reporting estimate:

$$
\begin{aligned}
u &= 1 - (0.24) \; (0.54) \\
&= 1 - 0.13 \\
&= 0.87
\end{aligned}
$$

This exercise suggests that the rateable values as determined by the assessment administration in Delhi may be underestimated by nearly 90 per cent. Improvement in assessment practices, therefore, could produce significant growth in property tax revenues within the DMC.

There is some evidence that properties may also be
undervalued in Madras. Table 13 shows that the average rate-
able value of the new assessments increased at par with those
of old assessments. Newer buildings, which tend to be bigger,
better built and on lands purchased at higher costs should add
more to total valuation. If undervaluation is also present
in the old properties, which is most likely the case, under-
valuation of new properties is even more pronounced.

One important factor that helps account for the
valuation of properties for the purposes of property taxation
is the imperfect rental market. These imperfections stem in
part from the legal imposition of rent control which prescribes
for the property a standard rent which is
likely to be much below the market rent.[10] Additionally,
practices such as a well organized system of 'pagri',[11]
especially in the commercial sector, and the discretionary
power given to the assessment officers to grant relief for
fully or partially owner-occupied properties can greatly
erode the tax base. Finally, underassessment may also be
attributable to the lack of adequate information on rental
values and lack of requisite training of assessment officials.

---

[10] For an empirical analysis and estimation of the effect
of rent control on the tax base, see Shyam Nath, Impact
of Standard Rent on Property Tax Base: An Empirical
Analysis, Working Paper No. 10 (New Delhi: National
Institute of Public Finance and Policy, 1982).

[11] Pagri is a type of non-refundable "deposit" paid by the
tenant to the landlord for the right to let the property.

TABLE 13

Number and Value of Land and Buildings
in Madras

Year	Total number of assessments	Average rateable value	
		Total	New
1967-68	617,398	Rs 1,505	Rs 1,587
1970-71	125,891	1,905	1,602
1975-76	139.445	2,784	2,701

Source: Government of Tamil Nadu
(1978), High Level Report
on Madras Corporation
Administration, Vol. II,
p. 303.

In any case, the above analysis suggests that assessment regulations and/or practices in both cities stand improvement. If the tax base of a jurisdiction fails to keep pace with the demand indicators such as prices and population, only continual tax rate changes can provide the revenues necessary to meet the demands.

Tax Rates

Given the progressive tax rate structures described above, it was unexpected to find that when current demand was regressed on rateable values (in double log form) buoyancy coefficients of 0.88 and 0.56 were obtained for Delhi and Madras, respectively. While the Delhi estimate is not significantly different from 1.0 at reasonable levels of significance, the Madras estimate is. Given the progressive tax structures in each city, the percentage change in current demand should be greater than the percentage change in the rateable value, i.e., coefficient greater than 1. The simple calculation in Table 14 shows that the current demand determined by the Tax Department in Delhi and Madras are lower than what ought to result on the application of statutory rate structure. The current demand is strangely low in Madras; it is lower than even its lower limit which is obtained by applying the lowest rate of the graduated tax structure to the various ranges of property value.

These findings suggests major anomalies in the determination of current demand in these cities; anomalies which we are unable to explain. Even if assessment practices were improved to insure that rateable values adequately reflected changing market conditions, if collectibles do not keep pace, the system will suffer from an overall lack of buoyancy.

TABLE 14

Comparison of Current Tax Demand at Different Tax Rates

	(Rs in lakhs)	
	Delhi 1977-78)	Madras (1976-77)
Rateable value (RV)	9213	7485
Lower limit of the current demand (CD_L)*	1099	1460
Current demand at the statutory rate structure	1699	2162
Current demand determined by the department	1264**	1082

* Delhi $CD_L = r_{LI} \, RV_1 + r_{L2} \, RV_2$

Madras $CD_L = r_L \, RV$

where

r_L = Lowest tax rate

r_{LI} = Lowest tax rate applicable to residential sector

r_{L2} = Lowest tax rate applicable to commercial sector

$RV_1 = 0.78 \, RV$

$RV_2 = RV - RV_1$

** General tax and fire tax of the private properties only. Thus, the current demand of Rs 1699 lakh of the statutory rate structure may be a slight overestimate. The share of government properties should be very low as they are supposed to pay only service charges.

Collections

It was noted above that Madras had maintained a
consistent record of collection efficiency while that of Delhi
had been more erratic. When total collections are regressed on
total demand (again in double log form), the resulting collec-
tion buoyancy coefficients for Delhi and Madras were 0.77 and
1.26 respectively. Current collections regressed against
current demand collection buoyancy coefficients for Delhi
and Madras are 1.09 and 1.03 respectively. However, the
analogous coefficients for arrear demand are 0.58 and 1.16
indicating that the deficient collection record in Delhi
has been largely due to the sluggish collection of arrears.

Arrear demand generally consists of cases that involve
dispute. Valuations proposed on the first assessment and
reassessment are almost invariably challenged leading to a
growing backlog of objections. Until a final decision
acceptable to the property owner is reached, the old tax
base, which is substantially lower than what is warranted
by market trends, continues to be used for determining the
tax liability.

At the same time, one should not put too much
emphasis on these collection efficiency buoyancy results,
for they reflect only changes over time. The real issue
with collection efficiency is its level. As was stated
above, even efficiency coefficients in the 60-70 per cent
range can stand, indeed need, improvement.

Policy Implications

Given these different results, what implications can
be drawn concerning policy or administrative changes in the
property tax or variables that affect it? As before these
issues can be most effectively considered as falling into
three areas-assessments, determination of collectibles and
collecting the taxes.

The findings here suggest that in both Madras and
Delhi the assessment process can stand improvement. Real
rateable values failed to keep pace with population growth
during the 1970s and there is some reasonably strong
evidence that properties are underassessed. Some of the
troubles here stem from external forces such as rent
control which holds back the growth in rateable value. But
there are also reasons to suspect that the assessment
process itself can be strengthened. This suggests more and
better training of assessment officials so that rateable
value can more closely reflect annual value and be altered
as the forces of the market drive up these values.

The statutory rates discussed above are not unrea-
sonable although the structure of the rates is such that a
preponderance of the total rateable value already lies
within the highest bracket suggesting that further growth
in the tax due to progressive rates will continue to be
less important. This means that subsequent growth in tax
revenues must be accomplished via the assessment and coll-
ection processes rather than through automatic increases
in the marginal tax rates.

The buoyancy findings regarding collectibles in response to changes in rateable values are, however, alarming. While it may be a statistical artifact, the results imply that rateable values are not being translated into collectibles. This suggests a weakness in the tax record keeping system. There may be the need to examine carefully the office practices being used and install more up-to-date record keeping procedures. This need not mean the installation of electronic machinery; what, instead, may be necessary is a revision in the procedures which transfer tax roll assessment information to the notices sent to taxpayers. Again, after these procedures have been studied, staff training would be called for.

Finally, improved growth performance of the property tax, at least in the short-run, can also be attained through an improved collection process. The cities examined here do not differ, in that regard, from other areas throughout the third world.[12/]

A combination of collection enhancement policies are called for.   A vigorous enforcement campaign including the use of legal remedies may be the most effective means of obtaining buoyancy in the tax. Since this is likely to be politically unpopular, it must be accompanied by a two-pronged informational campaign. The first stage of the campaign can concentrate on the elected and administrative officials who

---

12/ For example, in a recent study of local finance in the Philippines, a nationwide property tax collection efficiency of 57.2 per cent was found. See Roy Bahl, David Greytak, Kenneth Hubbell, Larry Schroeder and Ben Diokno, Strengthening the Fiscal Performance of Philippine Local Governments: Analysis and Recommendations, Monograph No. 6, Metropolitan Studies Program, The Maxwell School (Syracuse New York: Syracuse University, June 1981).

should be sh wn what lagging assessments and property tax
collections imply for the future of the city's financial
fortunes. The second stage would take that campaign to the
people to show them how services can be affected by continued
resistance to compliance with the tax. This, then, might
decrease the popular resistance to implementation of legal
remedies that would constitute the heart of any program to
raise compliance with the tax. One simple observation
concerning compliance with direct taxes is that if people
feel they are getting something in return for their tax
payments, they are much more likely to be willing to comply
with the levy. It is crucial, then, to inform them of
these benefits.

Conclusion

This paper has focused on components underlying the
growth performance of local property tax systems. Several
key factors are at the heart of such performance. These
include the assessment process, rate determination, trans-
lation of assessed values into collectibles, and finally
the collection process.

Recent growth performance of Delhi and Madras was
examined in light of these factors. While neither city's
record has been totally dismal, there were observed rooms
for improvement. Only if such improvements can be accom-
plished will the yield of the property tax be able to keep
pace with the public service cost pressures that beset these,
as well as other, cities in India and elsewhere.

kulwant.