

ZILLA ROADS/LOCAL FINANCE PROJECT  
INTERIM REPORT No. 3

THE IMMOVABLE PROPERTY TRANSFER  
TAX IN BANGLADESH

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## FOREWORD

This paper was the third in the series of Interim Reports issued from the Zilla Roads/Local Finance Project. Originally released in April 1983, the current version has been revised slightly to reflect changes in government structure that have occurred since then, to incorporate comments made on the original paper and to make the recommendations consistent with those made in the Final Report.

The paper focuses on what is, by far, the most important revenue source for zilla parishads in Bangladesh--the immovable property transfer tax. The tax, which also provides a reasonably productive source of revenues for paurashavas, is levied on the value of all land and attached property bought and sold in the taxing jurisdiction. The current paper reviews in some detail the methods used to collect this tax, its probable economic effects, and its revenue generation history.

The analysis suggests that, by itself, the tax should not have major detrimental effects on either economic efficiency nor on the distribution of income. Its primary potential weakness lies in its administration. It is collected in conjunction with other central government levies including stamp duties imposed on business transactions. There is, however, a great likelihood that the amounts reported as being the transfer price are underreported thereby leading to smaller revenue yields than potentially could be collected. Alm provides several recommendations as to how this administrative machinery could be strengthened. If these changes, together with an increase in the tax rate, were carried out, the immovable property transfer tax could become an even more productive revenue source for these local bodies without being a disruptive force on the economy.

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## THE IMMOVABLE PROPERTY TRANSFER TAX IN BANGLADESH

by James Alm

The ability of any government to provide services to its citizens depends largely on its ability to generate revenues. Improving the operation of a government therefore requires an understanding of the government's tax system: the administration of the taxes, their effects on resource use and on the distribution of income, and their revenue performance. This paper analyzes one tax that is a major source of revenues for local governments in Bangladesh: the immovable property transfer tax (IPTT). The main purpose of the paper is to outline reforms in the administration of the IPTT that will improve its yield. However, in the process the existing administration of the tax is described, and the economic and distributional effects of the tax are analyzed.

Bangladesh is not alone in its use of a property transfer tax. Such taxes are common in developed as well as developing countries.<sup>1</sup> Table 1 summarizes the taxes that have been used in several other countries. Typically, transfer taxes are a central government tax, and they have sometimes been imposed at high rates. For example, France imposes a tax of 16 percent on the gross sale price of businesses, and Greece levies an 11 percent tax on the market value of real property. Due to the overlap in tax bases, transfer taxes are also related to other taxes, such as property, capital gains, and wealth taxes.

The history of transfer taxes in other countries has made the tax an unpopular one with many observers. The most common criticism is that transfer taxes hinder the efficient exchange of property, thereby

TABLE 1  
PROPERTY TRANSFER TAXES IN SELECTED COUNTRIES

<u>Country</u>	<u>Rate and Base</u>
Afghanistan	1 percent on the sale price of land
France	4.2 percent on the gross sale price of housing; 16 percent on the gross sale price of businesses
Germany	7 percent on the value of land
Greece	11 percent on the estimated market value of real property
Guatemala	1 percent on the sale value of real estate
Jordan	1 percent on the purchase price of land
Korea	7 percent on the value of land
Lebanon	3 percent of the purchase price of land for citizens and 5 percent for foreign buyers
Mexico	5 to 7 percent of the property's value
Nepal	5 percent of the property's value
Singapore	2 to 3 percent of the value of the real property transferred
Spain	7.4 percent on real value of real estate
Taiwan	0.1 percent of the transfer price of real property

**SOURCES:** For Afghanistan, France (housing), Germany, Jordan, Lebanon, Nepal and Spain: United Nations, Department of Economic and Social Affairs, "Urban Land Policies and Land-Use Control Measures," vol. 2, "Asia and the Far East," Vol. 3, "Western Europe," vol. 5, "The Middle East"; Greece: George F. Break and Ralph Turvey, Studies in Greek Taxation (Athens: Center for Planning and Economic Research, 1964); Guatemala: Richard M. Bird, Taxing Agricultural Land in Developing Countries (Cambridge, Mass.: Harvard University Press, 1974); Korea: Moon-Ok Park, "Urban Land Value and Taxation: The Case of Korea," in Land for the Cities of Asia, A.M. Woodruff and H.R. Brown, eds. (Hartford, Conn.: University of Hartford, 1971); Mexico: Oliver Oldman, et al., Financing Urban Development in Mexico City (Cambridge, Mass.: Harvard University Press, 1967); France (businesses): Martin Norr and Pierre Korlan, Taxation in France, Harvard Law School World Tax Series (Chicago: Commerce Clearing House, 1966); Singapore and Taiwan: Orville F. Grimes, Jr., "Urban Land and Public Policy: Social Appropriation of Betterment," World Bank Staff Working Paper No. 179 (Washington, D.C., May 1974).

discouraging development.<sup>2</sup> Nevertheless, these taxes remain popular with governments. For one thing, they are sometimes progressive in their patterns of incidence, depending on the specific tax base. In addition, they are an attractive source of revenue to tax administrators. Typically, such taxes are levied on some measure of the value of the transaction and are collected at the time the transaction is legally registered. Collection of the tax is therefore relatively simple, and the legal necessity of deed registration makes complete evasion unlikely. Finally, in developing countries like Bangladesh, the absence of alternative tax bases at the local government level means that the IPTT is likely to remain of major importance for some time. A thorough analysis of the IPTT is therefore important, both in understanding its current operation and in suggesting ways to improve it.

The remainder of the paper is as follows. The next section describes the current administration of the IPTT. The revenue performance of the tax is then discussed, followed by an analysis of the effects of the tax on such factors as the volume of transactions, the efficiency of property use, and the distribution of income. Various reforms aimed primarily at improving its yield are outlined in the concluding section.

#### Features of the Immovable Property Transfer Tax

The IPTT is of major importance to those local government units in Bangladesh--zilla parishads and paurashavas--that receive its revenues. Tables 2 and 3 indicate that the IPTT contributes substantial amounts of revenues to these governments, particularly to zilla parishads. In

TABLE 2

IMPORTANCE OF IMMOVABLE PROPERTY TRANSFER TAX  
IN PAURASHAVA FINANCES

Year	Paurashava Revenues From Immovable Property Transfer Tax				Transfer Tax Revenue as Percent of Paurashava Own Source Revenue	Transfer Tax Revenue as Percent of Paurashava Total Revenue
	Nominal (total) <sup>a</sup>	Nominal (mean) <sup>c</sup>	Real (total) <sup>b</sup>	Real (mean) <sup>c</sup>		
1976/77	2,609,690	173,979 (15)	2,609,690	173,979 (15)	3.2	2.8
1977/78	3,445,156	229,677 (15)	2,990,587	199,372 (15)	6.8	2.9
1978/79	4,611,542	307,436 (15)	3,631,135	242,676 (15)	3.9	3.5
1979/80	7,357,514	490,501 (15)	5,015,347	334,357 (15)	5.2	4.5
1980-81	7,986,926	532,462 (15)	4,861,184	324,079 (15)	4.2	3.7

<sup>a</sup>Nominal at current taka.

<sup>b</sup>Real at 1976-77 taka.

<sup>c</sup>The number in the parenthesis represents number of observations used to compute mean.

SOURCE: Paurashava Records.

TABLE 3

## IMPORTANCE OF IMMOVABLE PROPERTY TRANSFER TAX IN ZILLA PARISHAD FINANCES

Year	Zilla Parishad Revenue From Immovable Property Transfer Tax				Transfer Tax Revenue As Percent of Zilla Parishad Own Source Revenue	Transfer Tax Revenues as Percent of Zilla Parishad Total Revenues
	Nominal (total) <sup>a</sup>	Nominal (mean) <sup>c</sup>	Real (total) <sup>b</sup>	Real (mean) <sup>c</sup>		
1976/77	45,104,550	2,819,034 (16)	45,104,550	2,819,034	69.2	40.6
1977/78	58,241,679	3,425,981 (17)	50,557,013	2,973,942	74.5	41.1
1978/79	72,057,218	4,003,178 (18)	56,737,967	3,152,109	75.4	45.9
1979/80	99,901,744	5,257,986 (19)	68,099,348	3,584,176	77.3	49.7
1980/81	85,474,641	4,498,665 (19)	52,023,519	2,738,080	76.2	46.3

<sup>a</sup>Nominal at current taka.

<sup>b</sup>Real at 1976-77 taka.

<sup>c</sup>The number in the parenthesis represents number of observations used to compute mean.

SOURCE: Zilla Parishad Records.

1980/81, IPTT revenues were 76.2 percent of the total revenues of zilla parishads and 4.2 percent of those of paurashavas.

It must be emphasized, however, that at no point in the administration of the IPTT--in the determination of the base and rate of the tax, in its collection, in the disbursement of its revenues--do zilla parishads and paurashavas play an active role. Instead, the tax is under the control of the Ministry of Law and Land Reform. Describing the IPTT as a local tax is therefore misleading. This fact has important implications for the efficiency with which the tax is currently administered. These implications are discussed in more detail later.

#### Base of the Immovable Property Transfer Tax

The IPTT is levied on the reported market value of all immovable property that is exchanged. The tax therefore falls on the value of land and buildings. Only structures that are permanent, or attached to the property, are taxed. Movable items such as vehicles, animals, or personal property are not subject to the tax. There are no exemptions.

It should be emphasized that, while the legal base of the IPTT is the market value of immovable property, the tax is actually collected on the reported value of the transaction. The two values obviously may differ. Because the amount of the IPTT that must be paid increases with the reported value of the property, the buyer will often understate the sale price. In addition, the buyer must pay other fees and duties that increase markedly with the reported value, again giving him an incentive to underreport. The seller may also wish to underreport the sale price because a higher price means greater capital gains and wealth taxes.<sup>3</sup>

In short, it is in the interest of both the buyer and the seller to understate for tax purposes the value of the property in order to reduce the amount of taxes and other fees that must be paid.<sup>4</sup> If detection of the undervaluation is unlikely, or if undervaluation even if detected goes unpenalized, then evasion of the IPTT through this means will be great. Indeed, local officials suggest that undervaluation is the factor most responsible for reducing the revenues of the IPTT below its potential, although there is no evidence on the extent of undervaluation.

#### Rate of the Immovable Property Transfer Tax

The IPTT is imposed at the rate of one percent of the reported value of the property. This tax rate is determined by the central government. Several local government officials interviewed in this study believe that the tax rate could be doubled or tripled with little effect on the volume of transactions. Although this recommendation has been sent to the central government, the rate has not been changed.

Taken alone, the rate of the IPTT is low and so is unlikely to have a significant effect on such things as the incentive to undervalue property, the volume of transactions, or the efficiency of land use. However, there are numerous additional registration fees and stamp duties that must be paid when property is transferred, many of which depend on the value of the transfer. These fees and duties are discussed in detail later. When looked at in their entirety, the combination of the IPTT and these other fees adds up to an effective tax rate that can be quite high.

### Collection of the Immovable Property Transfer Tax

Although the IPTT is a major source of zilla parishad and paurashava revenues, neither level of government has any direct control over its collection. Instead, the tax is collected at offices and by employees of the Ministry of Law and Land Reform located at the district and upazila level. At the district level, the District Registrar oversees the collection process; the Sub-registrar collects the tax at the upazila.

The collection of the IPTT is straightforward. To establish legal claim to a property, the purchaser of a property must register the deed of ownership at a registrar office. A District Registrar may register property located anywhere in the country; if the property does not lie within his district he will send a copy of the deed to the Registrar of Land in the district in which the property is located, and the transfer tax is credited also to that district. On the other hand, a Sub-registrar may only register property lying within the upazila under his jurisdiction. The IPTT, along with the other fees, is collected in full at the time the deed is registered. As noted above, the bulk of these charges depend on the value of the transaction, and the value that is used is that given by the purchaser. The recording officers do not attempt to verify that the true market value of the transaction is reported. Indeed, the operating procedures that have been given to the District Registrars and the Sub-registrars are quite explicit in stating that their duties do not include verification of the actual value of the property. The procedures followed by the officers are outlined in the Bengal Registration Manual of 1928, which states that "officers are not

responsible for checking the evaluation of the property" (page 83). Instead, the officers are concerned only that the amount of the fees that must be paid to register the deed correspond to the reported value of the transfer.

If the recording officer suspects undervaluation, he may report this to the Deputy Commissioner (DC) of the district. The DC then determines the value based on the sale prices of comparable properties. The decision of the DC is final, and the IPTT must be paid on the value set by him. However, interviews with officials indicate that detection of undervaluation is extremely rare. Moreover, even if undervaluation is detected, an individual is not penalized. Instead, he must simply pay the remainder of the tax that is due. It should be noted that there is some confusion about procedures when undervaluation is detected. Some officials suggested that a fine equal to ten times the amount that should have been paid on correctly valued property may be imposed; others said that they did not know the appropriate procedure to follow. In any event, the fact that there are no sanctions against undervaluation means that evasion through this means will be widespread.<sup>5</sup>

#### Allocation of the Immovable Property Transfer Tax Revenues

Of the total tax collections, 3 percent is retained by the Ministry of Law and Land Reform in order to pay for the administrative costs of the tax. The Ministry also receives all stamp and registration fees. These revenues are deposited at banks in an account assigned to the Inspector General of Registration. The remaining 97 percent of the taxes is distributed either to the zilla parishad, in a bank account of the

Chairman of the District Council, or to the paurashava. The exact disbursement depends on the location of the transferred property. When the property is located within a paurashava, the revenues are distributed to that paurashava; when located outside a paurashava, the revenues go to the zilla parishad. The zilla parishad and the paurashava learn about their tax revenues through a statement sent by the collecting officer.

The 97-3 allocation formula is a new one in fiscal year 1981/82. In previous years, the Ministry of Law and Land Reform (then the Ministry of Land Reform and Land Administration) kept 5 percent of the tax revenues and distributed the remaining 95 percent to the appropriate local government.

Like their duties in other aspects of the administrative process, the roles of officials at the zilla parishad and the paurashava in the allocation process are entirely passive. Many indicated that they make little attempt to determine--indeed, they have no way to know--whether they are receiving their correct share of the tax revenues. Rather, they are simply told the amount of the tax revenues that they are to receive, and this amount is outside their control.

#### Relation of the Immovable Property Transfer Tax To Other Taxes and Duties

The IPTT is a tax on the value of immovable property that is traded. As such, its administration has implications for several other taxes whose bases are related to that of the IPTT. The most important of these taxes are the capital gains tax, the Land Development Tax, and the stamp and registration duties that are imposed on property transfers.<sup>6</sup>

Capital Gains Tax. An individual who sells property for a higher price

than he paid for it realizes a capital gain. Under a 1947 amendment to the Income Tax Act of 1922 (Section 12B), the incremental value is subject to the capital gains tax in the personal income tax. At the same time, the total value of the transfer is also subject to the IPTT. The bases of the two taxes are therefore related, and more accurate assessment of one tax could improve the collection of the other. Unfortunately, however, the administrative links of the two taxes appear to be weak.

Admittedly, much of the property subject to IPTT is exempt under Section 12B from the capital gains tax, although it is not possible to determine the magnitude of these exemptions. For example, capital gains from the sale of agricultural land located more than five miles from a paurashava or a cantonment board are not taxed. Capital gains from the sale of a residence are also not taxed if the proceeds are reinvested in another residence. The distribution of property on the partition of a Hindu individual family, or by gift, bequest, or will is also excluded.

Nevertheless, it is likely that the tax bases overlap in many cases. To illustrate the connection between the two taxes when no exemptions are involved, consider an individual who purchases property with an initial value of  $V_0$ , where  $V_0$  is determined by the values of land and of permanent structures on the property. At the time of his purchase the buyer must pay the IPTT, equal to  $.01V_0$ . When the property is sold at some future date for some value  $V_1 > V_0$ , the same individual must pay taxes on the capital gains, equal to the capital gains tax rate ( $t_G$ ) times the increment in the value ( $V_1 - V_0$ ).<sup>7</sup>

This formulation also illustrates the incentives to misstate the value of the property that face the individual. Understatement of the initial value  $V_0$  lowers the IPTT, and understatement of  $V_1$  lowers the capital gains tax. On the other hand, the capital gains tax is reduced by overstating  $V_0$ . It is therefore apparent that, while the individual always gains by underreporting  $V_1$ , he faces conflicting tax incentives in deciding the initial value to declare: for each 1 taka that the individual underreports  $V_0$ , he saves .01 taka in less IPTT, but he pays an additional capital gains tax of  $t_G$  taka.<sup>8</sup> Because  $t_G$  exceeds .01 for most taxpayers, it would appear that the individual should overstate  $V_0$ . However, as will be seen later, a buyer must also pay stamp duties and registration fees, which increase with the initial value. These additional charges may be quite high, and, when they are combined with the IPTT, they create a strong incentive to underreport the initial purchase price.<sup>9</sup>

It is obvious that there is a close connection between the IPTT and the capital gains tax. Strict enforcement of the IPTT could therefore be helpful in collection of the capital gains tax, if accurate reporting of valuation is achieved for the IPTT and if this information is transmitted to those who collect the income tax. The opposite is also true: more accurate assessment of the capital gains tax could aid in the administration of the IPTT. Unfortunately, these administrative ties are largely absent. One potential link between the taxes does exist because property valued at more than Tk. 20,000 cannot be registered without an affidavit called the income tax clearance certificate, which certifies

that income taxes have been paid on the property (Section 47A of the Income Tax Act). However, agricultural land is exempt from this requirement, and there is no verification of the declared value on the certificate. Consequently, while some information from the capital gains tax is potentially available to aid in the administration of the IPTT, the quality of this information is questionable. And, in the other direction, the information gained from the IPTT is not used to administer the capital gains tax.

The IPTT cannot be a substitute for the capital gains tax. Because the transfer tax is based on the total value of the exchange, not the increment, it is only a crude way of taxing capital gains. Nevertheless, the basic problem of undervaluation of transfers is common to both. Coordination could improve the efficiency of both taxes.

Land Development Tax.<sup>10</sup> The Land Development Tax in its present form was created by the Land Development Tax Ordinance of 1976, although the tax rates were changed in 1982 to a more complex graduated structure. The tax is administered by the Ministry of Law and Land Reform, and its revenues are kept by the central government. It is a tax based on the total land holdings of an individual--size, not value, is the base--and so it requires accurate records of the ownership of property.

In practice, coordination between the IPTT and the Land Development Tax is achieved as follows. The Land Development Tax is collected in rural areas by tahsildars, under the supervision of the Upazila Revenue Officer (URO) of the upazila.<sup>11</sup> When a property is exchanged, the Sub-registrar of that upazila sends a Land Transfer Notice to the URO.

This notice contains such information as the name of the seller and of the buyer, the value and the date of the transaction, and the amount of land in the transaction. The URO gives the notice to the appropriate tahsildar, who verifies that the transfer has occurred. If it has, the tahsildar changes the record of ownership, called Register I.

The number of land transfers is substantial, and the verification process may take some time to be completed. In some districts the officials are one to two years behind in registering deeds. Consequently, the ownership records may not be up-to-date. For example, in Beani Bazar thana Sylhet District, there were three to four thousand transfers in fiscal year 1980/81; in Nagarkanda thana, Faridpur District, there were more than 1,400 transfers in the same period. For the Sylhet and Faridpur Districts, there were 260,000 and 150,000 deeds in 1979, respectively. Since the process by which the ownership records are altered takes some time--the URO in Beani Bazar estimates that the 15 tahsildars under his supervision can handle only two thousand transfers each year--the records may not accurately reflect current ownership.

Stamp Duties and Registration Fees. The IPTT is not the only tax that must be paid by an individual purchasing a property. There are numerous additional fees that must be paid in stamp duties and registration fees at the time of registration. These schedules are generally progressive and constitute a much higher tax rate than the IPTT alone. Taken together, the effective tax rate on transfers can be significant.

The most important of these charges is the stamp duty. The Stamp Act was enacted in 1899. The duties remained unchanged until the Finance Act

of 1980, which established the rate schedule shown in Table 4. Stamp duty depends on the declared value of the property. It is required to establish the transfer deed as a legal document. Without the proper amount of stamps on the document, the purchaser cannot create legal evidence of title to the property. This factor gives a strong incentive for an individual to register his purchase of property and, according to local officials, makes full evasion of the stamp duty and the other taxes unlikely. However, the steepness and progressivity of the stamp duties make evasion through undervaluation attractive; that is, stamp duty may be reduced by underreporting  $V_0$ .<sup>12</sup> Since the recording official does little to verify the value of the property, most officials believe that evasion through this means is quite common.

Various registration fees must also be paid. The most important of these is the A fee, also shown in Table 4. In addition, the purchaser must pay the E fee (four takas per document) and the N fee (two takas per page in the registration book). Unlike the stamp duty and the A fee, these latter fees do not depend on the value of the property.

The total payments--IPTT, stamp duty, and A fee--on transfers of various values are given in Table 5. The average tax rate on transfers is seen to be very high, rising from about 8 percent on transfers whose value is Tk. 1,000 to well over 15 percent for property valued above Tk. 100,000.<sup>13</sup> The charge most responsible for the high tax rate is the stamp duty. The IPTT contributes a small and declining proportion of the liability as the property value increases.

TABLE 4  
STAMP DUTY AND REGISTRATION FEE A

Stamp Duty

<u>Value of Property (in takas)</u>	<u>Marginal Duty Rate (in percents)</u>
1 - 10,000	6
10,001 - 30,000	9
30,001 - 60,000	12
60,001 - 100,000	15
above 100,000	17.5

Registration Fee A

1 - 50	1
51 - 100	2
101 - 250	3
250 - 500	8
501 - 1,000	12
1,001 - 1,500	18
1,501 - 2,000	26
2,001 - 2,500	30
2,501 - 3,000	36
3,001 - 4,000	42
above 4,000	70, plus 10 for each additional 500 in value or fraction thereof

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SOURCE: Finance Act of 1980.

TABLE 5

## TOTAL PAYMENTS ON THE TRANSFER OF IMMOVABLE PROPERTY

Value of Property (takas)	IPTT		Stamp Duty		A Fee		Total	
	Amount (takas)	Average Tax Rate (percent)						
1,000	10	1.0	60	6.0	12	1.2	82	8.2
5,000	50	1.0	300	6.0	90	1.8	440	8.8
10,000	100	1.0	600	6.0	190	1.9	890	8.9
25,000	250	1.0	1,950	7.8	490	2.0	2,690	10.8
50,000	500	1.0	4,800	9.6	990	2.0	6,290	12.6
75,000	750	1.0	8,250	11.0	1,490	2.0	10,490	14.0
100,000	1,000	1.0	12,000	12.0	1,990	2.0	14,990	15.0
250,000	2,500	1.0	38,250	15.3	4,990	2.0	45,740	18.3
500,000	5,000	1.0	82,000	16.4	9,990	2.0	96,990	19.4
1,000,000	10,000	1.0	169,500	16.9	19,990	2.0	199,490	19.9

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SOURCE: Computed by author.

A property need not be large to have a substantial total tax imposed on it. For example, in Beani Bazar, 30 decimals (about 1/3 acre) of farm land close to a road sell for 30 to 50 thousand taka, according to local officials; the total transfer duties on this property would range from Tk. 3,290 to Tk. 6,290 or an effective rate of from 11-12.5 percent. Similarly, officials in Rajoir, Faridpur District estimated that 52 decimals (slightly more than 1/2 acre) would sell for 10 to 20 thousand taka, depending on irrigation the total duties here would vary between Tk. 890 and Tk. 2,090 or a rate in the range of 9-10.5 percent. A recent study of land transfer in Sherpur thana, Bogra District found that the average price per acre of land in 1980/81 takas varied from Tk. 9,500 to Tk. 13,000, with the average size transfer equal to 1/4 acre; the taxes on such transfers varied from Tk. 196 to Tk. 269 or a tax rate of about 8.3 percent.<sup>14</sup> The total transfer charges can therefore be substantial even for small properties, and the bulk of the charges is paid in stamp duties.

Even more so than in the case of the IPTT, there is a strong incentive for individuals to evade the stamp duties and registration fees through undervaluation of the property. For administrative purposes, the IPTT, the stamp duty, and the A fee are effectively the same. Unfortunately, the enforcement mechanisms in all cases are the same and offer little effective deterrence. Efforts to improve the collection efficiency of the IPTT would obviously aid in the collection of the other fees.

### The Revenue Performance of the Immovable Property Transfer Tax

In designing or reforming any tax system, there are at least three major issues that must be addressed: the effects of the tax on the use of resources, the impact of the tax on the income distribution, and its ability to generate revenues. In this section the revenue performance of the IPTT is examined. Its allocative and distributional effects are discussed in the following sections.

The IPTT revenues of selected paurashavas and all zilla parishads for the fiscal years 1976/77 to 1980/81 are given in Tables 6 and 7, respectively.<sup>15</sup> The revenues of all paurashavas showed a substantial increase both in nominal and real (1976/77) terms over this period. In current taka, paurashava IPTT revenues rose by over 200 percent; even adjusted for inflation, revenues rose by 86.3 percent. The revenues of all zilla parishads in nominal terms show a steady increase up to 1979/80, with revenues falling by over 14 percent in 1980/81. Despite the fall in the last fiscal year, nominal revenues rose by 89.5 percent over this period. The revenues of all zilla parishads also rose slightly (15.3 percent) in real terms over the period.

Nevertheless, the overall increase in tax revenues for all paurashavas and zilla parishads hides substantial variation in the performance of the IPTT for the individual governments. For example, the paurashavas of Faridpur, Khulna, Dhaka, Barisal, and Chittagong had increases in nominal tax revenues of over 200 percent, while the increases in Sylhet, Kurigram, Habiganj, Mymensingh, and Gaibandha were less than 100 percent. The

TABLE 6

## PAURASHAVA REVENUES FROM IMMOVABLE PROPERTY TRANSFER TAX

Paurashava	1976/77		1977/78		1978/79		1979/80		1980/81		Percentage Change 1976/77 to 1980/81	
	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real
Barisal	65,748	69,106	59,582	101,352	79,809	162,663	111,018	206,568	125,738	214.2%	91.2%	
Chittagong	708,223	636,815	552,791	1,230,143	968,616	2,083,558	1,420,285	2,208,568 <sup>a</sup>	1,344,229 <sup>a</sup>	211.2	89.8	
Dhaka	1,190,705	1,882,032	1,633,708	2,262,065	1,781,153	3,628,149	2,473,176	4,000,000 <sup>a</sup>	2,434,571 <sup>a</sup>	235.9	104.5	
Faridpur	26,093	32,673	28,362	50,775	39,980	78,571	53,559	100,000 <sup>a</sup>	60,864 <sup>a</sup>	283.2	133.3	
Gaibandha	20,148	23,044	20,003	33,234	26,168	34,778	23,707	40,142	24,432	99.2	21.3	
Habiganj	17,913	19,725	17,122	31,230	24,590	34,967	23,636	32,428	19,737	81.0	10.2	
Khulna	200,000	354,358	307,602	389,689	306,841	617,345	420,821	698,819 <sup>a</sup>	425,331 <sup>a</sup>	249.4	112.7	
Kurigram	19,632	20,708	17,976	28,446	22,398	33,284	22,688	34,322	20,890	74.8	6.4	
Madaripur	16,626	358	311	5,603	4,411	31,132	21,222	5,000 <sup>a</sup>	3,043 <sup>a</sup>	-69.9	-81.7	
Moulvi Bazar	40,800	34,900	30,295	61,298	48,344	69,750	47,546	94,912	57,767	132.6	41.6	
Mymensingh	58,292	61,741	53,595	66,976	52,737	99,662	67,936	113,176	68,884	94.2	18.2	
Rajbari	12,740	10,278	8,922	18,861	14,851	22,000	14,997	28,000	17,042	119.8	33.8	
Rajshahi	72,250	77,200	67,014	73,825	58,129	108,335	73,848	154,250	93,883	113.5	29.9	
Rangpur	74,265	68,033	59,056	91,977	72,422	127,120	86,653	152,671	93,044	105.8	25.3	
Sylhet	86,255	154,185	133,841	165,962	130,678	226,000	154,056	117,850	71,729	36.6	-16.8	
TOTAL	2,609,690	3,445,156	2,990,587	4,611,542	3,631,235	7,357,514	5,015,347	7,986,926	4,861,184	206.0	86.3	

<sup>a</sup>Revised estimate.

SOURCE: Paurashava Records.

TABLE 7

ZILLA PARISHAD REVENUES FROM IMMOVABLE PROPERTY TRANSFER TAX  
(in takas)

Zilla Parishad	1976/77		1977/78		1978/79		1979/80		1980/81		Percentage Change, 1976/77 To 1980/81	
	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real
Chittagong	3,237,607		3,936,749	3,417,317	4,493,545	3,538,224	5,058,436	3,448,150	5,493,724	3,343,715	69.7%	3.3%
Chittagong Hill Tracts	0	0	0	0	0	0	0	0	0	0	---	---
Comilla	3,570,553	4,327,316	3,756,351	4,938,355	3,888,469	7,582,048	5,168,404	6,760,174	4,114,531	89.3	15.2	
Noakhali		3,875,374	3,364,040	4,700,702	3,701,340	6,090,984	4,152,000	5,998,368	3,650,863	54.8 <sup>c</sup>	8.5 <sup>c</sup>	
Sylhet	3,593,503	5,105,929	4,432,230	5,302,859	4,175,480	8,108,353	5,527,166	808,000 <sup>a</sup>	491,783 <sup>a</sup>	-77.5	-86.3	
Dhaka	5,158,069	6,954,653	6,071,747	9,625,545	7,582,319	16,730,786	11,404,762	16,205,245	9,863,205	214.2	91.2	
Faridpur	2,491,340	2,593,497	2,251,299	2,627,390	2,068,811	3,806,872	2,595,005	4,048,526	2,464,106	62.5	-1.1	
Jamalpur						2,084,766	1,421,108	1,571,966	956,766	-24.6 <sup>c</sup>	-32.7 <sup>c</sup>	
Mymensingh	4,743,596	6,477,138	5,622,516	6,284,619	4,948,519	7,091,262	4,633,853	6,033,509	3,672,251	27.2	-22.6	
Tangail	1,331,981	1,703,384	1,478,632	2,066,160	1,626,898	2,665,058	1,816,672	2,118,850	1,289,623	59.1	-3.2	
Barisal	1,785,257	2,542,045	2,206,636	2,881,657	2,269,021	3,791,632	2,584,616	3,377,716	2,055,822	89.2	15.2	
Jessore	1,888,540	2,521,685	2,188,963	3,251,345	2,560,114	3,731,566	2,543,671	2,953,270	1,797,486	56.4	-4.8	
Khulna	2,600,000	3,003,637	2,607,324	4,000,000	3,149,606	4,500,256	3,067,659	5,615,022	3,417,542	116.0	31.4	
Kushtia				1,803,589	1,420,149	2,711,621	1,848,412	2,165,542	1,318,041	20.1 <sup>c</sup>	-7.2 <sup>c</sup>	
Fatuakhali	966,386	1,561,866	1,355,786	1,549,478	1,220,061	1,887,087	1,286,358	1,583,940	964,054	63.9	-0.2	
Bogra	1,613,126	2,261,928	1,963,479	2,746,802	2,162,836	3,458,903	2,357,807	2,994,272	1,822,442	85.6	13.0	
Dinajpur	2,936,834	3,921,080	3,403,715	3,322,648	2,616,258	3,985,790	2,716,967	3,156,275	1,921,044	7.5	-34.6	
Pabna	1,637,726	2,200,772	1,910,392	2,845,532	2,240,576	3,689,214	2,514,802	3,277,844	1,995,036	100.1	21.8	
Rajshahi	3,644,903	1,144,892	993,830	5,610,851	4,417,363	8,057,696	5,492,635	6,312,398	3,841,995	64.2	-0.1	
Rangpur	3,705,129	4,069,734	3,532,755	4,002,941	3,151,922	4,869,414	3,315,361	5,000,000 <sup>b</sup>	3,043,214 <sup>b</sup>	34.9	-17.9	
<b>TOTAL</b>	<b>45,104,550</b>	<b>58,241,679</b>	<b>50,557,013</b>	<b>72,057,218</b>	<b>56,737,967</b>	<b>99,901,744</b>	<b>68,099,348</b>	<b>85,474,641</b>	<b>52,023,519</b>	<b>89.5</b>	<b>15.3</b>	

<sup>a</sup>Revised estimate.<sup>b</sup>Budget estimate.<sup>c</sup>The percentage change is calculated for the longest sub-period possible.

SOURCE: Zilla Parishad Records.

experiences of zilla parishads also differed widely. Dhaka, Khulna, and Pabna had increases in nominal tax revenues by amounts ranging from 100.1 to 214.2 percent; on the other hand, several zilla parishads, notably Dinajpur and Kushtia, experienced little gain in revenues.<sup>16</sup> The story is the same for real tax revenues.

The increases in nominal tax revenues were large enough to increase nominal revenues per capita for nearly all paurashavas and zilla parishads, as shown in Tables 8 and 9. However, real per capita revenues fell for many zilla parishads, due to the sharp decline in revenues in 1980/81. Again, there were great differences for the individual governments. Real per capita revenues rose by over 50 percent for the paurashavas of Dhaka, Chittagong, Khulna, and Faridpur but fell for Mymensingh, Habiganj, Rangpur, Kurigram, and Sylhet. For zilla parishads, only Dhaka, Khulna, and Pabna had an increase of more than 10 percent in real per capita revenues over the entire period.

Both the level of IPTT revenues and the growth in these revenues are matters of concern. It is important to note that the level of IPTT revenues is quite low; that is, nominal and real per capita revenues are on the average very small, even with the growth that has occurred since 1976/77. Only Moulvi bazar among the paurashavas and Dhaka among the zillas received more than 1 taka per person in real terms in 1980/81. If per capita revenues are taken as a measure of tax effort, then such effort is extremely low.

A different issue is the growth in IPTT revenues. Revenues from the IPTT may grow for several reasons. The value of all properties that are

TABLE 8

PER CAPITA PAURASHAVA REVENUES FROM IMMOVABLE PROPERTY TRANSFER TAX  
(in rupees)

Paurashava	1976/77		1977/78		1978/79		1979/80		1980/81		Percentage Change, 1976/77 To 1980/81	
	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real
Barisal	0.53	0.45	0.52	0.45	0.71	0.56	1.08	0.74	1.30	0.79	145.3%	49.1%
Chittagong	0.62	0.46	0.53	0.46	0.98	0.77	1.57	1.07	1.59 <sup>a</sup>	0.97 <sup>a</sup>	156.5	56.5
Dhaka	0.46	0.58	0.67	0.58	0.75	0.59	1.12	0.76	1.16 <sup>a</sup>	0.71 <sup>a</sup>	152.2	54.3
Faridpur	0.47	0.49	0.56	0.49	0.83	0.65	1.23	0.84	1.49 <sup>a</sup>	0.91 <sup>a</sup>	217.0	93.6
Gaibandha	0.63	0.59	0.68	0.59	0.94	0.74	0.95	0.65	1.05	0.64	66.7	1.6
Habiganj	0.93	0.84	0.97	0.84	1.47	1.16	1.57	1.07	1.39	0.85	49.5	-8.6
Khulna	0.39	0.56	0.65	0.56	0.68	0.54	1.03	0.70	1.12 <sup>a</sup>	0.68 <sup>a</sup>	187.2	76.9
Kurigram	0.53	0.46	0.53	0.46	0.68	0.54	0.76	0.52	0.74	0.45	39.6	-15.1
Madaripur	0.37	0.008	0.01	0.008	0.11	0.09	0.55	0.37	0.09 <sup>a</sup>	0.05 <sup>a</sup>	-75.7	-86.5
Maulavibazar	3.03	2.13	2.45	2.13	4.07	3.20	4.39	2.99	5.68	3.46	87.5	14.2
Mymensingh	0.65	0.57	0.66	0.57	0.68	0.54	0.96	0.65	1.05	0.64	61.5	-1.5
Rajbari	0.44	0.29	0.33	0.29	0.58	0.46	0.64	0.44	0.77	0.47	75.0	6.8
Rajshahi	0.48	0.43	0.50	0.43	0.46	0.36	0.65	0.44	0.90	0.55	87.5	14.6
Rangpur	0.68	0.49	0.57	0.49	0.76	0.60	0.88	0.60	0.98	0.60	44.1	-11.8
Sylhet	0.82	1.11	1.28	1.11	1.22	0.96	1.49	1.02	0.71	0.43	-13.4	-47.6

<sup>a</sup>The revenue figure used to calculate revenues per capita is a revised estimate.

SOURCE: Paurashava Records.

TABLE 9

PER CAPITA ZILLA PARISHAD REVENUES FROM IMMOVABLE PROPERTY TRANSFER TAX  
(in takas)

Zilla Parishad	1976/77		1977/78		1978/79		1979/80		1980/81		Percentage Change, 1976/77 To 1980/81	
	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real
Chittagong	0.85	0.88	1.01	0.88	1.12	0.88	1.22	0.83	1.29	0.79	51.8%	-7.1%
Chittagong Hill Tracks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---
Comilla	0.57	0.58	0.67	0.58	0.78	0.61	1.14	0.78	1.00	0.61	75.4	7.0
Noakhali	0.57	0.93	1.07	0.93	1.27	1.00	1.62	1.10	1.56	0.95	45.8 <sup>c</sup>	2.2 <sup>c</sup>
Sylhet	0.69	0.83	0.96	0.83	0.98	0.77	1.47	1.00	0.14 <sup>a</sup>	0.09 <sup>a</sup>	-79.7	-87.0
Dhaka	0.85	1.00	1.15	1.00	1.56	1.23	2.68	1.83	2.57	1.57	202.4	84.7
Faridpur	0.57	0.50	0.58	0.50	0.58	0.46	0.82	0.56	0.86	0.52	50.9	-8.8
Jamalpur	0.57	0.68	0.58	0.68	0.58	0.46	0.90	0.61	0.67	0.41	-25.6 <sup>c</sup>	-32.8 <sup>c</sup>
Mymensingh	0.58	0.68	0.78	0.68	0.74	0.58	1.13	0.77	0.94	0.57	62.1	-1.7
Tangail	0.59	0.64	0.74	0.64	0.89	0.70	1.12	0.76	0.87	0.53	47.5	-10.2
Barisal	0.43	0.52	0.60	0.52	0.67	0.53	0.88	0.60	0.76	0.46	76.7	7.0
Jessore	0.53	0.60	0.69	0.60	0.86	0.68	0.96	0.65	0.74	0.45	39.6	-15.1
Khulna	0.76	0.74	0.85	0.74	1.11	0.87	1.22	0.83	1.49	0.91	96.1	19.7
Kushtia	0.59	0.81	0.93	0.81	0.91	0.72	1.23	0.84	0.95	0.58	13.1 <sup>c</sup>	-12.1 <sup>c</sup>
Patuakhali	0.59	0.81	0.93	0.81	0.91	0.72	1.08	0.74	0.90	0.55	52.5	-6.8
Bogra	0.66	0.79	0.91	0.79	1.08	0.85	1.33	0.91	1.12	0.68	69.7	3.0
Dinajpur	1.04	1.17	1.35	1.17	1.12	0.88	1.31	0.89	1.01	0.62	-2.9	-40.4
Pabna	0.53	0.63	0.72	0.63	0.92	0.72	1.16	0.79	1.01	0.62	90.6	17.0
Rajshahi	0.81	0.88	0.24	0.21	1.12	0.88	1.57	1.07	1.20	0.73	48.1	-9.9
Rangpur	0.63	0.59	0.68	0.59	0.66	0.52	0.78	0.53	0.79 <sup>b</sup>	0.48 <sup>b</sup>	25.4	-23.8

<sup>a</sup>The revenue figure used to calculate revenues per capita is a revised estimate.

<sup>b</sup>The revenue figure used to calculate revenues per capita is a budget estimate.

<sup>c</sup>The percentage change is calculated for the longest sub-period possible.

SOURCE: Zilla Parishad Records.

exchanged may increase, either because there is a greater volume of transactions or because the prices of the properties increase. An increase in the tax rate may also generate more revenues. Finally, revenues may increase if there is an improvement in collection efficiency, notably detection of undervaluation. Of these three forces, it is likely that only the first has been a major factor in the growth of revenues here, since the tax rate has not been changed and there have been few administrative changes that could have improved collection efficiency. The revenue growth is primarily due to the larger volume of transfers that normally accompanies economic growth, as well as to the inflation that Bangladesh has experienced in recent years.<sup>17</sup> Given the importance of the IPTT in individual paurashava and zilla parishad finances--see Tables 10 and 11--automatic growth in revenues from the IPTT is particularly important. There are constant pressures for increased government expenditures, and it is necessary that revenues increase with these demands. Since discretionary changes in any tax may be costly, slow, and unpopular, automatic growth in revenues is desirable.

One common measure of the responsiveness of the IPTT to changes in economic conditions is its income elasticity, or the percentage change in revenues divided by the percentage change in income. Unfortunately, there is no information on income by paurashava or by district. However, one crude measure of district income may be obtained for the fiscal years 1976/77 to 1979/80 from value added in agricultural production. If agricultural income grows at the same rate as all income, then its use in calculating the income elasticity does not create any errors; if

TABLE 10  
IMMOVABLE PROPERTY TRANSFER TAX REVENUES AS PERCENT OF PAURASHAVA FINANCES

Paurashava	1976/77		1977/78		1978/79		1979/80		1980/81	
	Percent of Own Source Revenues	Percent of Total Revenues								
Barisal	3.4	2.7	3.1	2.1	3.8	1.5	3.9	3.0	4.1	3.0
Chittagong	3.9	3.5	2.7	1.8	4.0	3.8	6.1	5.2	4.8	4.1
Dhaka	2.7	2.4	3.8	3.5	3.6	3.5	4.8	4.2	3.8	3.5
Faridpur	4.5	2.9	3.1	1.8	3.1	2.5	7.7	5.1	6.1	3.3
Gaibandha	5.8	4.0	5.5	3.8	6.7	5.6	5.6	3.8	6.6	5.6
Habiganj	5.5	5.0	3.9	3.7	5.0	4.8	6.4	6.2	6.1	5.8
Khulna	3.3	2.7	4.4	3.6	3.7	3.2	5.2	4.3	4.4	3.8
Kurigram	14.0	5.7	11.3	4.2	11.4	6.7	14.6	7.0	9.3	5.5
Madaripur	3.1	2.2	0.2	0.09	1.1	0.8	6.0	3.9	1.2	0.7
Moulvi Bazar	21.1	13.9	15.6	11.1	11.8	10.6	14.6	12.0	14.5	9.1
Mymensingh	2.5	2.3	3.1	2.8	2.7	2.6	2.9	2.8	4.1	4.0
Rajbari	6.8	3.7	3.4	2.4	5.9	4.3	8.1	5.1	11.4	6.5
Rajshahi	3.2	2.5	3.0	2.4	2.8	2.5	3.3	3.0	3.9	3.4
Rangpur	5.3	4.7	4.1	3.9	5.0	4.4	6.4	6.2	6.3	6.0
Sylhet	4.1	3.2	6.8	5.5	7.5	5.8	8.7	7.6	3.7	3.2

SOURCE: Paurashava Records.

TABLE 11

## IMMOVABLE PROPERTY TRANSFER TAX REVENUES AS PERCENT OF ZILLA PARISHAD FINANCES

Zilla Parishad	1976/77		1977/78		1978/79		1979/80		1980/81	
	Percent of Own Source Revenues	Percent of Total Revenues	Percent of Own Source Revenues	Percent of Total Revenues	Percent of Own Source Revenues	Percent of Total Revenues	Percent of Own Source Revenues	Percent of Total Revenues	Percent of Own Source Revenues	Percent of Total Revenues
Chittagong	72.7	48.6	71.3	50.9	70.1	53.4	80.4	55.6	70.9	56.5
Chittagong Hill Tracts	0	0	0	0	0	0	0	0	0	0
Coxilla	68.5	39.6	60.2	30.3	69.3	42.1	62.3	39.7	78.5	33.5
Noakhali			81.6	76.6	92.2	69.2	67.8	66.9	89.3	70.7
Sylhet	64.8	42.3	75.1	52.3	80.9	55.7	81.3	58.0	33.6	22.7
Dhaka	83.6	41.4	89.3	37.4	82.5	60.5	76.9	61.2	76.5	59.7
Faridpur	69.7	42.3	56.8	27.5	62.6	33.8	76.6	41.8	61.2	47.2
Jamalpur							81.3	42.5	65.1	41.6
Mymensingh	52.2	34.6	67.5	42.8	64.2	47.0	61.6	46.6	68.9	52.1
Tangail	66.7	37.7	80.1	34.8	75.6	25.9	84.5	44.3	84.5	26.9
Larisal	68.0	36.0	90.6	45.3	83.7	73.4	82.6	50.0	88.1	52.2
Jessore	75.6	28.6	82.6	19.7	88.9	18.0	91.3	26.1	76.3	14.9
Khulna	76.2	37.9	81.7	42.0	85.2	56.1	82.3	53.4	85.7	65.9
Kushtia					59.3	43.7	70.9	53.2	63.5	46.1
Patuakhali	45.0	28.6	76.5	32.0	88.9	32.6	91.4	23.7	71.9	17.9
Bogra	77.3	52.9	66.8	70.6	86.3	79.8	84.1	79.2	74.8	70.2
Dinajpur	92.8	79.0	93.7	87.8	87.6	40.8	80.6	56.8	89.7	70.1
Pabna	74.5	62.6	85.3	73.5	64.7	61.0	85.1	80.3	86.4	80.9
Rajshahi	54.6	39.7	31.0	17.5	67.2	49.6	60.9	47.0	77.9	56.9
Rangpur	94.3	54.5	91.3	51.9	71.2	46.9	79.4	53.5	93.3	64.2

SOURCE: Zilla Parishad Records.

agricultural income grows faster (slower) than all income, then the calculated elasticity underestimates (overestimates) the true income elasticity.

A second approximation of zilla incomes is estimates of Gross District Product (GDP). The problem with this measure is that it is for the entire district, including urban areas, rather than just the rural portions of districts. Similar biases in the elasticity estimates will occur if district GDP is a biased estimate of income in the jurisdictions.

Estimates of the district level income elasticity of the IPTT are presented in Table 12, based on average growth rates in tax revenues and each of these measures for the period 1976/77 to 1980/81. These estimates must be used with caution. However, they suggest that on average the IPTT grows slightly slower than income measured either by agricultural value added or GDP. The slightly lower GDP estimates probably reflect both the somewhat faster growth of incomes in urban areas and the inclusion of only the rural tax base in these estimates. They also demonstrate the variability in yield by district that was noted earlier.

While income elasticities provide some indication of the buoyancy of the IPTT, it is of interest to determine if particular factors associated with the locality affect its yields in a systematic manner. In addressing this issue we first consider the sorts of variables that theoretically should influence these tax yields.

Since the IPTT is based on the value of property bought and sold within a jurisdiction, land values and rate of turnover are the primary determinants of tax yield. In addition, however, the more random effects

TABLE 12

GROWTH IN REVENUES FROM THE IMMOVABLE PROPERTY TRANSFER TAX,  
GROSS DISTRICT PRODUCT, AND AGRICULTURAL VALUE  
ADDED, 1976/77 TO 1980/81

Zilla Parishad <sup>a</sup>	Average Annual Growth in IPTT (percent)	Average Annual Growth in GDP (percent)	GDP Elasticity	Average Annual Growth in Ag. Value Added (percent)	Ag. Value Added Elasticity
Chittagong	17.4	19.7	.88	16.7	1.04
Comilla	22.3	16.1	1.39	10.3	2.17
Sylhet	36.8	34.4	1.07	43.7	.84
Dhaka	53.5	21.7	2.47	19.5	2.74
Faridpur	15.6	21.1	.74	18.4	.85
Mymensingh	6.8	17.8	.38	17.6	.39
Tangail	14.8	21.2	.70	19.3	.77
Barisal	22.3	20.5	1.09	18.8	1.19
Jessore	14.1	15.2	.93	10.7	1.32
Khulna	29.0	27.7	1.05	26.5	1.09
Patuakhali	16.0	21.1	.76	19.6	.82
Bogra	21.4	20.1	1.06	21.3	1.00
Dinajpur	1.9	19.8	.10	17.8	.11
Pabna	25.0	24.5	1.02	23.1	1.08
Rajshahi	16.0	14.6	1.10	10.8	1.48
Rangpur	8.7	23.5	.37	23.2	.38
<b>Total</b>	<b>17.0</b>	<b>20.9</b>	<b>.81</b>	<b>17.8</b>	<b>.96</b>

<sup>a</sup>Only those Zilla Parishads for which information on IPTT revenues, GDP, and Value Added from Agriculture are available for the entire period are used to compute total growth rates.

SOURCES: Zilla Parishad Records and 1981 Statistical Yearbook of Bangladesh (Dhaka: Bangladesh Bureau of Statistics, 1982).

of differential tax administration within the several jurisdictions are likely to affect the observed, as opposed to the actual, tax liabilities.

Testing models of this sort is constrained greatly by the availability of data; however, sufficient proxy indicators are available at the district level in Bangladesh to allow a first approximation of the effects of several factors that influence tax yields. One variable that is likely to influence property values is the general level of economic activity, as measured by district GDP. One might argue that this measure is inappropriate because it is based on economic activity in rural and urban areas alike, while district revenues came only from rural areas. However, if there is a spillover of urban economic activity to the value of property in nearby rural areas, the GDP data will reflect it. Another similar variable that reflects the impact of urbanization on property values is urbanization itself, measured by the proportion of total district population (city plus non-city) that is in cities. Again, one would expect that the greater the level of urbanized population within a district, the greater would be the rate of turnover and the value of property. Finally, since land constitutes the principal form of property bought and sold in these rural areas, the amount of land contained in the jurisdiction itself might be considered to be a positive influence on the yield of the IPTT.

The specification of the model also requires determination of the most appropriate dependent variable. Since we are interested here in the effects of the several explanatory variables on the relative performance of the IPTT, different ways of standardizing total yields are possible. One is simply to examine differential per capita performance of the IPTT,

i.e., use tax yields divided by zilla population as the dependent variable. A second is to standardize on the basis of the area encompassed by the zilla parishad, i.e., use tax yields divided by acres of land to indicate per acre yields from the levy. Both results are reported below.<sup>18</sup>

The final specification issue concerns the method of estimation. The available data constitute a time series of cross sections; therefore some method based on pooled data is most appropriate. We have limited ourselves to three different approaches to the estimation issue--simple ordinary least squares (OLS) estimation of the pooled data, covariance estimates, and error components techniques. Simple OLS estimates assume a unique underlying structural model without regard for differentials in levels of the dependent variables either across zillas or across time. These differentials are accounted for through the use of covariance estimates. This technique is especially attractive because no good measures of differential district administrative efficiency exist, although it is recognized that administration probably holds the key to collections of the IPTT. Finally, the error components model provides a formal structure to account for unexplained random variations attributable to the separate cross sectional and time series effects.

The choice of estimation technique is not clear-cut. OLS estimates are a useful benchmark, particularly if there are no differences across districts or years. On the other hand, more sophisticated techniques may be preferable. Covariance estimators may often be as useful as the more complex error components approach if administrative differences across

districts mean only that the average levels of tax collections are significantly different across districts.<sup>19</sup> However, these differences in administrative procedures may also mean that the response to changes in the independent variables also differ across districts. This then would suggest a "random coefficients" model. In such instances the error components model is preferable to the simpler covariance technique.<sup>20</sup> In addition, the error components model has substantially more degrees of freedom than the covariance model. We therefore employ all three techniques here.

Table 13 shows the regression results for two different models using each of the three estimation techniques when the dependent variable is real IPTT revenues per capita. In general, the results suggest a lack of systematic response in this variable to differences in any of the three independent variables used. Including district indicators (the covariance model) does produce a significant F-statistic with approximately one-third of the variability in IPTT per capita revenues explained. When these systematic cross-section related errors are taken into account in the error components model, real GDP per capita shows a slight negative association with taxes per capita--a result contrary to a priori expectations that would suggest that greater local economic activity would produce increases in property values and, hence, greater revenues from the IPTT.

Considerably stronger results are obtained when the dependent variable is taxes per acre (Table 14). Whereas taxes per capita can be especially high in either relatively low populated rural districts and in the more

TABLE 13

POOLED REGRESSION RESULTS: REAL  
TRANSFER TAX PER CAPITA

(absolute values of t-statistics in parentheses)

<u>Straight Pooling (OLS)</u>					
<u>Regression</u>	<u>Real GDP Per Capita</u>	<u>Percent Urban</u>	<u>Land Area</u>	<u>F</u>	<u>R<sup>2</sup></u>
1	0.0002 (1.55)	0.001 (0.50)		2.32	.03
2	0.0002 (1.50)	0.002 (0.57)	-1.08E-7 (0.59)	1.65	.02
<u>Covariance Model--District Intercepts</u>					
3	-4.77E-5 (0.22)	0.062 (1.72)		3.29**	.34
4	-0.0001 (0.42)	0.063 (1.72)	-5.53E-7 (0.46)	3.11**	.33
<u>Error Components</u>					
5	-2.98E-5 (3.24)**	0.0003 (1.65)		2.49	.08
6	-2.96E-5 (3.19)**	0.0003 (1.60)	5.90E-9 (0.42)	1.63	.07

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\*Significant at less than the 0.05 level.

\*\*Significant at less than the 0.01 level.

SOURCE: Computed by authors.

TABLE 14

POOLED REGRESSION RESULTS: REAL TRANSFER TAX PER ACRE

(absolute values of t-statistics in parentheses)

<u>Straight Pooling (OLS)</u>					
<u>Regression</u>	<u>Real GDP Per Capita</u>	<u>Percent Urban</u>	<u>Land Acre</u>	<u>F</u>	<u>R<sup>2</sup></u>
1	-0.67 (1.88)	43.78 (5.66)**		16.71**	.26
2	-0.74 (2.19)*	46.89 (6.35)**	-.002 (3.30)**	16.04**	.34
<u>Covariance Model--District Intercepts</u>					
3	-0.56 (1.75)	394.20 (6.13)**		26.99**	.88
4	-0.87 (2.32)*	409.92 (6.36)**	-.003 (1.55)	26.58**	.88
<u>Error Components</u>					
5	-1.11 (3.63)**	54.01 (8.35)**		35.72**	.47
6	-1.22 (4.20)**	55.85 (9.04)**	-.001 (3.26)**	29.48**	.52

\*Significant at less than the 0.05 level.

\*\*Significant at less than the 0.01 level.

SOURCE: Computed by authors.

urbanized districts, taxes per acre avoid these problems and tend to reflect more closely the relationship between land values and IPTT collections. The results are particularly interesting and reflect the effects of urban development on transfer tax collections (keep in mind here that the tax ratios are based on taxes collected only in the non-city areas of districts). Urbanization has a strong positive effect on per acre tax revenues. This result reflects the spillover effects of urbanization on land values surrounding these urban areas and is even more pronounced when land area of the zilla is included explicitly in the equation. The findings that GDP is negatively associated with tax revenues per capita probably reflects the fact that districts with greater economic activity are those with greater non-agricultural production, which is less directly reflected in the IPTT base. As in the case of per capita collections, the results here indicate the considerable effect on revenues from differential administration of the tax across districts. This is most apparent from a comparison of the straight pooled results and those obtained when district dummy variables were included (the covariance model). About 50 percent of the variability in IPTT revenues per acre can be attributed simply to these district indicators. As is the case in most analyses of local revenues in developing countries, the findings suggest that tax administration and improvements therein must play a dominant role in any reform measures.

In sum, the IPTT has generated increasing amounts of taxes in the last several years, both in nominal and real terms. Its revenues have also tended to increase at a slightly faster rate than income. However, its

yield is still quite low when viewed in per capita terms, due to administrative weaknesses. This suggests that the main problem with the IPTT as a source of revenues is the level, not the growth of its revenues. Consequently, if the level can be increased by improvements in administration and collection efficiency, then revenues can be expected to keep pace with growth in the economy.

#### The Effects of the Transfer Duties on the Efficiency of Property Use

Because the IPTT is imposed at a low rate, it is tempting to think that its presence will exert no influence on the transfer of property. In fact, this is correct but misleading. As discussed earlier, the IPTT is only one of several duties levied on transfers. The tax rate from all duties together is at least 8 percent and may rise to over 20 percent for large-valued transactions. Such tax rates are likely to affect decisions about property transfers. In this and the following section, the effects of the combined transfer duties are examined.

As noted by Shoup, a transfer tax is essentially a tax on differences of opinion about the desirability of holding property.<sup>21</sup> In the absence of the tax, a transfer will occur if a buyer believes the property to be worth more than the seller; with the tax, the buyer must believe the property to be worth more than the seller by at least the amount of the tax. If opinions differ widely, as is likely when the economy is growing and markets are active, or if the tax rate is low, the tax may have little effect on transactions. At other times, however, the tax may be a

significant deterrent to the exchange of property. In the latter case, the tax has particularly harmful effects. By reducing the volume of transactions, the tax hinders the transfer of properties to more productive uses. In addition, methods used to avoid the tax--division of parcels to avoid the progressive rates of the stamp duties, or transfer of effective but not legal control of the property (e.g., long leases)--may be wasteful. Finally, the timing of development may be delayed if the presence of the tax leads the owner to delay the sale of the property to developers until he can accumulate funds to develop the property himself (the lock-in effect).<sup>22</sup>

A smoothly working market in property serves a useful economic purpose by encouraging the transfer of resources to more productive uses. Of course, transfers are not always productive. For example, property may be bought or sold for purely speculative reasons. However, an individual will generally purchase property only if he expects a positive return from the transactions. As noted long ago by Ricardo, transfer taxes "prevent the national capital from being distributed in the way most beneficial to the community."<sup>23</sup> Because the transfer duties in Bangladesh are imposed at high rates, it is likely that they discourage productive transfers of property and so diminish the efficiency of the economy.

#### The Distributional and Equity Effects of Transfer Duties

Transfer duties are nominally paid by the buyer. However, this does not necessarily mean that it is the buyer who ultimately pays, or "bears the burden," of the tax. Just like a commodity tax may be borne by the

buyer or the seller or both, the true burden of the transfer tax--and it is very much like a commodity tax--may bear no relation to its legal burden.

The division of the transfer duties between the buyer and the seller depends on the relative responsiveness of the two parties to a change in the price of the property, or what is called the elasticity of demand and of supply.<sup>24</sup> If buyers are willing and able to pay the price inclusive of the transfer duties without significantly decreasing their purchases--that is, if their demand is inelastic--then they are likely to bear most of the tax burden. On the other hand, if sellers must offer for sale the same amount of property without much regard to the price that they receive (an inelastic supply), then it is the sellers who will pay the tax. With buyers and sellers both responsive to the price of property, the division of the tax burden is more difficult to determine. In general, those with the less responsive actions will bear the bulk of the burden.

Without information on the elasticities of demand and supply, it is not possible to determine precisely whether it is the buyer or the seller of the property who pays the transfer duties. The previously mentioned study of land transfer in Sherpur thana, suggests that the burden there is borne more by sellers than by buyers.<sup>25</sup> It found that sellers usually owned small amounts of land (less than 1/2 acre) while buyers tended to be larger landowners, that the income of buyers was on average higher than that of sellers (although both had above-average income), and that the main cause of sale was "economic hardship." These results suggest that

there may be more economic pressure on sellers than on buyers, so that sellers bear more of the burden than buyers.<sup>26</sup> However, the evidence is fragmentary at best. In addition, the study also found that the main cause of purchase was to become "economically solvent," which implies some urgency for the purchase. In sum, firm conclusions on the share of tax burden are not possible. At a different level, however, the division of the burden between buyer and seller is unimportant. Because the duties are borne by either the buyer or the seller of the property, and because either party is likely to be among the wealthier members of society, it is hard to escape the conclusion that the taxes fall more heavily on the rich than on the poor.

It is also likely that the transfer duties are borne in part by those owners who do not even trade their property. For example, consider a tax on the transfer of ownership shares (or stock) of a business. To the extent that the price net of tax falls--that is, to the extent that sellers of the stock bear some of the burden--all owners of the stock pay the tax because their shares are worth less. This result is known as tax capitalization and means that those who own the stock at the time of the tax bear part of the burden. In the case of transfer duties, capitalization implies that all owners of property pay part of the tax. Because ownership of property is concentrated in upper income groups, the burden of the transfer duties will again fall more heavily on the wealthy.<sup>27</sup>

The above conclusions on the distributional effects of transfer duties depend on an unequal distribution of land and property in Bangladesh.

Miller and Wozny present evidence on the 1978 distribution of land ownership in rural areas, summarized in Table 15.<sup>28</sup> It is apparent that there is extreme inequality in the distribution of land holdings. The bottom half of households (the first six deciles, or 51.8 percent of the sample population) own only 4.6 percent of the land, while the top 15.3 percent of the households own 52.4 percent of the land. Alamgir and Ahmad summarize evidence that land ownership (and that of other productive assets) has become more concentrated since 1960.<sup>29</sup> They also conclude that urban poverty and income inequality is an extension of that in rural areas; in fact, urban income is more unequally distributed than rural income. Because the distribution of income is found to be closely linked to the distribution of land ownership--Alamgir and Ahmad conclude that "unequal distribution of landholding has been found to be highly correlated with unequal distribution of income and high incidence of poverty"<sup>30</sup>--transfer taxes that fall on land and property owners will be borne largely by the wealthy.

Transfer duties fall short of several criteria for an equitable tax. They are not tailored to the individual circumstances of the taxpayer. They may be evaded by those who are dishonest and avoided by those who find legal means to circumvent the tax. Nevertheless, the duties are likely to improve the equity of the Bangladesh tax system: those who have the greatest ability to pay are taxed most heavily.

#### Summary and Recommendations

The IPTT is of major importance to local governments in Bangladesh. It generates substantial revenues for zilla parishads and, to a lesser

TABLE 15  
DISTRIBUTION OF POPULATION AND LANDHOLDINGS

Decile of Households With Plot-Size Range (acres)	Percent of Sample Population Within Each Decile <sup>a</sup>	Percent of Total Landholdings Within Each Decile
1st ( 0 )	11.6 ( 11.6)	0 ( 0)
2nd ( 0- .03)	3.9 ( 15.5)	.1 ( .1)
3rd ( .04- .10)	8.7 ( 24.2)	.4 ( .5)
4th ( .11- .29)	8.9 ( 33.1)	1.1 ( 1.6)
5th ( .30- .60)	9.4 ( 42.5)	2.6 ( 4.2)
6th ( .61- 1.04)	9.3 ( 51.8)	4.6 ( 8.8)
7th (1.05- 1.63)	10.1 ( 61.9)	7.6 ( 16.4)
8th (1.64- 2.53)	10.7 ( 72.6)	11.9 ( 28.3)
9th (2.54- 4.42)	12.1 ( 84.7)	19.3 ( 47.6)
10th (4.43-76.27)	15.3 (100.0)	52.4 (100.0)

<sup>a</sup>Cumulative percentages are provided in parentheses.

SOURCE: Barbara D. Miller and James Wozny, "The Land Development Tax in Bangladesh: Insights From the 1980 Land Occupancy Survey," Interim Report No. 4, Local Revenue Administration Project, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, 1983).

extent, paurashavas, revenues that can be expected to increase with growth in the economy. It is likely that the IPTT, taken alone, has little effect--positive or negative--on the efficiency of resource use and on the distribution of income. (Such is not the case for all transfer duties taken together. See the earlier discussion.) As one of the few local government tax sources, the IPTT is likely to remain important for some time to come. The main consideration in reforming the IPTT must therefore be in improving its revenue performance. The following recommendations, which consider both rate and administrative issues, address this goal.

#### Tax Rates

Revenues from the IPTT have grown in the past at a rate slightly faster than income. Nevertheless, the level of tax effort, as measured by revenues per capita, remains extremely low. Because the tax rate of the IPTT is both low in the absolute and low relative to the total tax rate on property transfers, an increase is likely to generate additional tax revenues with little adverse effect on the exchange of property. Thus, in the short-run:

1. The immovable property transfer tax rate should be increased from its current level of one percent to two percent.

If there are no changes in collection efficiency and in the level and value of total property transferred, such a rate increase would double the revenues currently earned by the local bodies from the IPTT. One might anticipate that the increase in total rate will discourage some transfers; however, it is not reasonable to expect that a doubling of the IPTT rate

would result in a full halving of properties transferred when the IPTT is considered in conjunction with other stamp duties. One possible outcome is that the reported value of transferred property will decline proportionately to the percentage increase in the overall rate. If an average rate for the stamp duty is 11 percent, an increase in the IPTT from 1 to 2 percent amounts to an 8.3 percentage increase in the effective overall rate associated with the transfer of property. Even if reported transfers of property declined by 8.3 percent, the effect of the new higher IPTT rates would be to increase local government revenues by 83.4 percent.<sup>31</sup> In the case of zilla parishads, which already are highly dependent upon the IPTT as a revenue source, such an increase would greatly improve their abilities to meet the demands for public services. It should be noted, however, that the high combined tax rates may significantly discourage the efficient exchange of property. The central government should consider decreasing the maximum stamp duties to reduce this problem.

The IPTT could also be used to strengthen the fiscal autonomy of local governments. If the recommended two percent rate is considered a floor, local governments could be given an option to add on up to some specified ceiling rate. Such authority would be a very important step towards decentralization. The principal difficulty associated with such local autonomy concerns administration of the IPTT. Currently, transferred property can be registered and duties, fees and taxes can be paid at any district headquarters, regardless of property location. District rate differentials would complicate the collection process by requiring the

registration officer to determine the appropriate rates for the district in which the property is located. If this is seen as overly complicating the tax collection process, registration of property could be restricted to the district in which it is located although this would increase tax compliance costs.

Again, a choice must be made: greater local government autonomy versus increased administrative or compliance costs. We feel that the decentralization benefits of autonomy are sufficient to recommend:

2. Zilla parishads and paurashavas should be given the power to add up to one percent to the basic two percent IPTT rate.

#### Tax Base

Taxes on the transfer of property in developing countries have received considerable criticism by students of land taxation because of their adverse effects on the rate at which property is exchanged. Nevertheless, given the revenue needs, the scarcity of taxable economic activity in the rural areas of Bangladesh and the relatively low rates imposed, we feel that the current tax base constitutes a reasonable basis for taxation and recommend no changes therein. There is, however, some question as to whether the base should be altered as additional districts/zilla parishads are created.

The issue is whether the creation of more districts would lead to greater fluctuations in the revenue yield of the IPTT. The tax is levied on the sale of property, which is a random event. With a greater number of districts, each will be smaller in area with fewer parcels which can be

transferred. The randomness in property transfers can, therefore, result in greater annual variability in IPTT yield.<sup>32</sup>

Some indication of the potential effect of smaller districts is obtained by contrasting the coefficients of variation in real per capita IPTT collections in 19 districts for the period 1976/77 to 1980/81 with comparable coefficients of variation for the four divisions in the country. The average coefficient of variation for the 19 districts was about half again as large as that for the divisional level.

Less stability in tax yields could, therefore, result from the creation of additional districts. It may be that this adverse effect of a greater number of smaller districts does not warrant any additional complication of the tax base and administration. On the other hand, if the IPTT were to remain the most important revenue of zilla parishads, large fluctuations in annual revenues will greatly complicate fiscal planning. One approach to this problem, which would create no greater annual variability in yields than currently exists, would be to aggregate the tax yields across the newly-created districts to the level of the current districts and distribute the amounts according to a formula. The simplest formula would use only population; another could include both population and miles of zilla parishad roads to better reflect maintenance spending needs. The weaknesses of this aggregation and sharing approach are that it would eliminate the possibility of autonomous rate-setting at the zilla parishad level. Therefore, we make no recommendations for a change at this time. Instead, the Government should simply be aware of the IPTT revenue variability problem associated with the creation of new

districts and, if the problem proves to be severe, should consider ways to diminish the difficulty.

#### Tax Administration

While a rate increase would produce additional revenues from the IPTT, another desirable and productive area of reform concerns tax administration. The single factor most responsible for restraining the yield of the current IPTT is understatement of the value of the transfer. Improving this situation, with or without changing tax rates, will require changes in administration of the tax.

Under current procedures, neither District Registrars nor Sub-registrars have been instructed to detect and correct undervaluation. Indeed, officials have been instructed to accept the stated value. This should be changed.

The fact that the central government already administers the IPTT in conjunction with the stamp duties provides an advantage in implementing such a change; that is, the Ministry of Law and Land Reform has an incentive to raise greater revenues. Thus, in conjunction with amending the manual of instructions, the Law and Land Reform Ministry should make it a policy to reward those Registrars and Sub-registrars who are successful in detecting undervaluation. Tahsildars, who verify the transfers after registration, are also a part of the compliance process and are also under the control of the Ministry of Law and Land Reform. Similar incentives should be provided to this group. Thus:

3. The manual of instructions for collection officials should be amended. Officials should be directed to attempt to determine the correct value of the recorded transfer. Evaluation of the job performance of collection officials should include their effectiveness at detecting undervaluation of property.

The detection of undervaluation would be greatly facilitated if additional information were available to Registrars, Sub-registrars, and tahsildars. A reasonable selling price for a parcel of property is likely to be related to its value when previously sold; therefore, if such information is made available, chances will be improved that undervaluation will be detected. Thus:

4. A transfer should not be allowed until the previous deed of ownership, along with evidence of its previous purchase price, is presented.

Property values differ greatly throughout the country. Still, similarly situated properties within a paurashava or upazila are likely to have similar prices, with factors such as nearness to roads, access to water and irrigation facilities, and types of structures playing the dominant roles in price differentials. It should be possible to construct a table of average property values per decimal for each upazila.<sup>33</sup> The table could then be used as a check on stated values at the time of transfer. The task of constructing such a table could be assigned to the upazila statistical officer who would prepare it after consultation with other upazila officers, members, and chairman of the upazila parishad, as well as individuals knowledgeable about the local real estate market. Thus:

5. A schedule of approximate property values, broken down by major property characteristics, should be developed and updated annually in all upazilas by the upazila statistical officer.

While detection of undervaluation is a necessary condition for its elimination, it is also important that the individuals participating in such illegal activity be punished. At present there are no penalties on undervaluation. Thus:

6. Penalties for undervaluation should be imposed and publicized. These penalties, possibly equal to twice the evaded tax plus interest, would have to be paid in addition to the tax due prior to subsequent transfer of the property.

Some type of system whereby either the government or a private individual is allowed to buy the property at the declared value might also be considered. However, such schemes have usually failed to work very well.<sup>34</sup>

Property registration and collection of the IPTT along with other transfer duties and fees are fully the responsibility of the central government. We would not recommend that this be changed. On the other hand, the zilla parishads and paurashavas seem to take an entirely passive attitude towards the collection of IPTT. Even though the local bodies have no direct leverage over the Registrars and Sub-registrars, periodic inspections of the registration process with reports written to supervisors of the personnel involved are in order, given the relative importance of this revenue source to zilla parishads. Thus:

7. Local bodies deriving funds from the IPTT should regularly inspect and investigate the manner in which the tax is being administered locally to insure that undervaluation is being detected and that the total tax liability due the jurisdiction is properly being credited to its accounts.

## ENDNOTES

1. For a discussion of the use of property transfer taxes in other countries, see George E. Lent, "The Taxation of Land Value," International Monetary Fund Staff Papers, Vol. 14, No. 1 (1967); Carl S. Shoup, Public Finance (Chicago: Aldine Press, 1969); Richard M. Bird, Taxing Agricultural Land in Developing Countries (Cambridge, MA: Harvard University Press, 1974); and Roger S. Smith, "The Effects of Land Taxes on Development Timing and Rates of Change in Land Prices" in Roy W. Bahl, ed., The Taxation of Urban Property in Less Developed Countries (Madison, WI: The University of Wisconsin Press, 1979).
2. This point is forcefully made by Oldman, et al., Financing Urban Development in Mexico City; Shoup, Public Finance; and Bird, Taxing Agricultural Land in Developing Countries.
3. Officials interviewed in the course of this study suggested that overvaluation may occur in some instances. For example, the governmental right of preemption at declared value may lead a buyer to overstate the sale price. Overvaluation may also occur when property owned by a partnership is sold by an individual partner to a non-partner. Bangladesh law provides that in this instance the remaining partners have the option to purchase within four months the transacted property at the declared price. The new owner may therefore be willing to overstate the sale price in order to reduce the likelihood of this option being exercised. Finally, a buyer who anticipates that he will sell the property in the near future may overstate the purchase price in order to reduce capital gains upon sale. Nonetheless, the officials believed that undervaluation is far more common than overvaluation.
4. Note that the transfer tax may be completely evaded by failing to report the transfer at all. However, officials believed that outright evasion is uncommon, due to the necessity of establishing legal claim to the property. Again, there is no evidence on this practice.
5. It can be shown that some tax evasion will occur if the probability of being detected and penalized is less than  $1/(1+P)$ , where P is the rate at which the penalty is imposed. Since there is no penalty here, an individual will benefit on average by undervaluation as long as the probability of detection is less than 100 percent.
6. The wealth tax and the gift tax are also related to the IPTT. However, these taxes are of minor importance to the central government, and they are not discussed here.
7. The individual who buys the property must, of course, pay the IPTT of  $.01 V_1$ .

8. Because the property will not be sold until some future date, the individual compares at time 0 the .01 taka gain from the IPTT with the present value of the additional capital gains tax. For example, if the individual expects to sell the property in one year, the additional capital gains tax equals  $t_G/(1+r)$ , where  $r$  is the interest rate.
9. Note also that the wealth tax and the gift tax are based on  $V_0$ , so that these taxes increase the incentive to undervalue.
10. For further discussion of the Land Development Tax, see James Alm and Larry Schroeder, "The Land Development Tax in Bangladesh," Local Revenue Administration Project, Interim Report No. 7, The Maxwell School (Syracuse, NY: Syracuse University, 1983); and Barbara D. Miller and James Wozny, "The Land Development Tax in Bangladesh. Insights From the 1980 Land Occupancy Survey," Local Revenue Administration Project, Interim Report No. 4, The Maxwell School (Syracuse, NY: Syracuse University, 1983).
11. Until the recent reorganization of the upazila, the tahsildar was under the supervision of the Circle Officer--Revenue of the Thana.
12. Stamp duty may also be avoided by splitting the transaction into several smaller ones, due to the progressivity of the rate structure.
13. The maximum tax rate (average and marginal) approaches 20.5 percent for properties exceeding Tk. 1 million in value.
14. M.M. Sultan, "Land Transfer--A Survey of Sherpur Thana of Bogra District," Rural Development Academy, (Bogra: 1982).
15. Central government data on IPTT revenues exist. However, because these figures give the aggregate collections by district, including revenues that are allocated to paurashavas, they are not comparable to the data in Tables 6 and 7.
16. Note that the nominal (and real) revenues of Sylhet and Jamalpur decline in 1980/81. In the case of Sylhet this is due to the use of a revised estimate for revenues in 1980/81; for Jamalpur, it is due to the lack of data from earlier years.
17. The total tax collections ( $T$ ) from the IPTT may be represented as:

$$T = etn\bar{V}$$

where  $e$  measures collection efficiency and equals 1 when all taxes are collected,  $t$  is the tax rate of the IPTT,  $n$  is the number of transfers, and  $\bar{V}$  is the average value of a transfer. If there is no change in collection efficiency and the tax rate, then the proportional change in tax collection is:

$$\frac{\Delta T}{T} = \frac{\Delta n}{n} + \frac{\Delta P}{P} + \frac{\Delta n}{n} \frac{\Delta P}{P}$$

where P is the unit price of the property and  $\Delta$  denotes a change in the relevant variable.

18. A third way to standardize is on the basis of economic performance within the district, i.e., use tax yields divided by GDP. These results are similar to the ones reported here.
19. See T.D. Wallace and Ashiq Hussain, "The Use of Error Components Models in Combining Cross Section With Time Series Data," Econometrica, XXXVII (January 1969), pp. 55-72; and Yar Mundlak, "On the Pooling of Time Series and Cross Section Data," Econometrica, XLVI (January 1978), pp. 69-85.
20. See K.H. Johnson and H.L. Lyon, "Experimental Evidence on Combining Cross Section and Time Series Information," The Review of Economics and Statistics, Vol. LV, No. 4 (November 1973), pp. 465-474.
21. See Shoup, Public Finance.
22. See Smith, "The Effects of Land Taxes on Development Timing and Rates of Change in Land Prices."
23. The quotation is from Carl S. Shoup, Ricardo on Taxation (New York: Columbia University Press, 1960), pp. 57.
24. Formally, the elasticity of demand is defined as the percentage change in quantity demanded divided by the percentage change in price. The elasticity of supply is defined in a similar manner and equals the percentage change in quantity supplied divided by the percentage change in price.
25. Sultan, "Land Transfer--A Survey in Sherpur Thana of Bogra District."
26. Using a different data set, Choudhury and Rahman reach a similar conclusion. See Md. Hossain Ali Choudhury and M.M. Rahman, "Transfer of Ownership of Agricultural Land in Two Villages in Mymensingh District," Bangladesh Journal of Agricultural Economics, III(2) (December 1980), pp. 57-66.
27. To the extent that property owners raise the rents charged to tenants or sharecroppers, or lower the wages paid to laborers, the progressivity of the tax burden is lessened. However, it seems likely that if the owners were in fact able to do these things, they would already have done so. The imposition of the tax per se gives them no opportunity to do so. The conclusion therefore remains: the burden of the transfer duties is on the rich.

28. Miller and Wozny compute Table 15 using survey data presented in F. Tomasson Jannuzi and James T. Peach, The Agrarian Structure of Bangladesh: An Impediment to Development (Boulder, CO: Westview Press, Inc., 1980). See Miller and Wozny, "The Land Development Tax in Bangladesh: Insights from the 1980 Land Occupancy Survey."
29. Mohiuddin Alamgir and Sadiq Ahmad, "Poverty and Income Distribution in Bangladesh: Evidence and Policies," Harvard Institute for International Development, Development Discussion Paper No. 119 (Cambridge, MA: Harvard University Press, 1981).
30. Alamgir and Ahmad, "Poverty and Income Distribution in Bangladesh: Evidence and Policies," pp. 21.
31. Using the same notation as previously, the proportional change in tax collections in response to a change in the tax rate is:

$$\frac{\Delta T}{T} = \frac{\Delta t}{t} + \frac{\Delta(n\bar{V})}{(n\bar{V})} + \frac{\Delta t}{t} \frac{\Delta(n\bar{V})}{(n\bar{V})}$$

where  $n\bar{V}$  is the tax base of the IPTT.

32. This argument is based on the fact that the variance of the sample distribution of a binomial process declines as the sample size increases. Decreasing district sizes is tantamount to decreasing the size of a sample since fewer parcels are at risk of being sold in any single year.
33. Use of such tables is widespread in the administration of value-based property taxes in developing countries. For further discussion, see Bird, Taxing Agricultural Land in Developing Countries.
34. Such "self-assessment" programs were originally proposed by John D. Shasma, "Market-enforced Self-assessment for Real Estate Taxes," Bulletin for International Fiscal Documentation (1965), pp. 353-363 and pp. 397-414. For a critical discussion, see Shoup, Public Finance.