

## **Revisiting the Property Tax in Indonesia: Current Practices, Recent Performance, and Near-Term Potential**

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**Summary:** One of the key arguments made by some Indonesian government officials in defense of continued central control over the property tax is that it has performed very well under their authority and that its decentralization would inevitably result in weaker operations and outcomes. The property tax has indeed grown remarkably well over the past fifteen years, averaging over 10 percent per year in real terms. This growth, however, has been from a very low base, has been dominated by increased revenues from the mining sector, and has been driven by a relatively small number of sub-national governments. The empirical analysis in this paper suggests that recently only around 40 percent of urban and rural property tax potential has been realized, given the existing tax base and statutory tax rate. Property valuations are the most problematic aspect of administration (appraised-to-market-value ratios are estimated to be around 60 percent overall) but tax coverage and collections are also weaker than one might expect (both at about 80 percent of potential). While there may, in fact, be insufficient local administrative capacity to manage the property tax even at current levels of performance, this problem could be solved by transferring the relevant central (and already deconcentrated) staff to local governments, as has been carried out in other newly decentralized sectors. But even before tax administration is devolved, local governments could at least be given some authority over the property tax rate, presently one of the lowest in the world.

### I. Introduction and Background

Indonesia has embarked upon an ambitious program of fiscal decentralization. Starting in fiscal year 2001, sub-national governments assumed major new expenditure responsibilities. Substantial functions for provinces have been explicitly enumerated in the law and attendant regulations; local government responsibilities have not been as clearly and comprehensively identified but are to be concentrated in eleven sectors: public works, health, education and culture, agriculture, communications, industry and trade, capital investment, environment, land, cooperatives, and labor. While there has been some lingering confusion about the precise duties of sub-national governments, especially those of kabupaten and kota, it is apparent that, in the event, regional government expenditure responsibilities have become considerable. In fiscal year 2001, for example, it was estimated that sub-national governments made up approximately 30 percent of total public spending. The sub-national share of expenditure increases to over 40 percent if central debt service payments are ignored.

Regional governments have not, unfortunately, been awarded with authority over any new, major tax bases within the emerging decentralization framework. Sub-national

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governments, as a whole, retain the right to levy essentially the same taxes and charges as before decentralization, although the distribution of tax bases between provinces and kabupaten/kota has been restructured to a certain extent (and tax bases themselves have been marginally redefined in some instances). Provinces have at least some authority over taxes related to motor vehicles, change of title of motor vehicles, fuel, and ground water extraction and use (the latter being formerly under the control of kabupaten/kota). Tariffs over these taxes are set at uniform rates across the country by the central government. Local governments exercise control over taxes concerning hotels, restaurants, entertainment, advertisement, street lighting, some (“class C”) mineral exploitation, and parking (newly created). Kabupaten/kota control the tax tariffs below centrally specified ceilings.<sup>1</sup> Both provinces and kabupaten/kota may collect user charges and fees of various sorts.

In addition, kabupaten/kota (but not provinces) are now allowed to create their own taxes through local by-laws, given the satisfaction of a number of “good tax” criteria and central government approval. As it turns out, these criteria appear to have been quite broadly interpreted by both local governments and the center. Kabupaten/kota have set about creating a rather bewildering array of new taxes and charges. Some observers have judged most of the newly created taxes to be either “nuisances” or economically harmful in some way. The new local taxes notwithstanding, public revenues apparently remain heavily centralized in Indonesia. Recent estimates put the sub-national government share of total national revenues at about five percent. As a result, many observers have criticized Indonesia’s fiscal decentralization program as paying insufficient attention to questions related to the revenue side of the equation.

A recent Ministry of Finance policy paper has, among other things, outlined a strategy to enhance revenue decentralization in Indonesia. (Directorate General Central-Local Fiscal Balance, 2002.) The paper states that the current policy on sub-national taxation seeks to extend regional authority over (more) suitable tax instruments and to significantly increase own-source revenues in regional budgets. For provinces, the outlined plan focuses on providing governments with more discretion over the tariffs of their currently levied taxes. For kabupaten/kota, the suggested approach is to give local governments more control over some substantial (and typically local) source of revenue, such as the property tax (at least in the urban and rural sectors). In addition, the government may decide to restrict, in some fashion, kabupaten/kota authority to create new taxes.

So, the Ministry of Finance is now again considering the merits of decentralizing at least some control over the property tax. As might be expected, unanimity of opinion on the matter has not yet been achieved. The major proponent of devolving authority over the tax is the Directorate General of Central-Local Fiscal Balance (DGFB). This DG is charged with making fiscal decentralization policy inside the Ministry of Finance. It has ministerial responsibility over, among other things, regional taxation, intergovernmental transfers, and regional borrowing. DGFB has made the standard

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<sup>1</sup> By law, provinces must share 30 percent of the motor vehicle-based taxes and 70 percent of the fuel and ground water taxes with kabupaten/kota. The latter must share 10 percent of their total own-source tax revenues with villages.

arguments in support of making the property tax a local instrument, emphasizing its broad-based nature, general revenue potential, and benefit tax characteristics.

On the opposing side, most importantly, is the Directorate General of Tax (DGT). The latter has historically been in charge of policy-making related to and administration of all national taxes in Indonesia, including the property tax. Officials inside DGT typically make two main arguments in support of continued central control of property taxation. First, they assert that the current performance of this tax under their tutelage is excellent and that operations and outcomes would undoubtedly suffer under the hands of local authorities. Second, they claim that since, in the event, virtually all revenues from the property tax are allocated to the regions anyway, there is no real purpose to devolving policy or administrative control over the tax.

Regarding the latter point, DGFB makes the now standard counter-arguments concerning decentralization's presumed positive impact on local "marginal revenues" and political accountability. That is, these officials stress the importance of providing local governments with control over some broad-based and significant source of revenue, such as the property tax, as a means of gauging and responding to increased demand (i.e. at the margin) for the services that they have been charged with delivering. And second, they emphasize that local authority over and use of the property tax in this manner would help to make the link between taxes and service delivery more explicit and that this, in turn, it is argued, would be expected to encourage citizens to hold their local governments accountable for actions taken on their behalf. While these arguments would appear to be the conventional wisdom among economists and public finance experts, it must be admitted that they have had only partial success in Indonesia.

But what of the claim that the property tax has performed well under central control? This is the main issue addressed in the present paper. More specifically, the primary goal of the paper is to empirically review and explain the performance of the property tax, with a particular focus on the most important administrative functions associated with the tax in the local sectors (i.e. for urban and rural properties). The analysis of (under) performance is carried out within the context of a simple, consistent empirical framework. A second objective of the paper is to examine the potential impact of decentralizing the property tax on local budgets. This latter examination attempts to address the question: would it matter?

After this introduction, the paper proceeds as follows. First, the paper briefly describes current "reform period" property tax practices. Second, the recent performance of the property tax is reviewed: over time, by sector, and by region. Third, a simple ratio-based model of property tax performance is specified, a measure of underperformance is derived, and some empirical evidence is offered regarding the relative importance of various administrative practices in explaining performance. Fourth, the paper simulates the impact of decentralizing the property tax on local revenues. Finally, the paper discusses the results and offers some conclusions relevant for property tax and fiscal decentralization policy-making.

## II. Current Property Tax Practices

The so-called property tax reform period dates back to 1985 when the government instituted major legislative changes. The pre-reform period of property taxation has been described and analyzed elsewhere (Booth, 1974; Kelly, 1993; Shah and Qureshi, 1994; and Rosengard, 1998). The following section of the paper describes the current practices of property tax administration and policy in Indonesia, especially as codified in the post-reform legislation.

### *Identification of Taxable Properties*

The identification of taxable properties is based on “self-discovery” principles. Taxpayers are legally responsible for providing all relevant data regarding properties to the tax office. The official mechanism for providing such information is Tax Object Information Letter (Surat Pemberitahuan Objek Pajak—SPOP.) Such information would include, among other things, the taxpayer’s name and address, location of tax object, taxable area of land and building, and recent purchase price, where applicable. Third parties such as notaries (i.e. for sales transactions), issuers of building permits (the local department of public works), and others are also required to provide relevant information to tax offices.

The intent of the above described property discovery system, is, of course, to identify taxable land and buildings and ultimately to assess property tax liability. Not all land parcels and buildings which could be taxed are taxed. Some otherwise taxable properties are exempt by law. Exempted properties, according to current law comprise: (1) those used in conjunction with the operation of certain not-for-profit religious, social, health, and/or education activities; (2) cemeteries and the like; (3) wildlife reserves, national parks and forests, and other similar protected areas; (4) those pertaining to official foreign diplomatic presence; and (5) those related to the functioning of certain international organizations, where appropriate and as determined by the Ministry of Finance.

Of course, some non-exempted properties may go untaxed, as well. Such undercoverage may be a function of lack of administrative capacity or a dearth of financial resources, for example. More will be said about issues related to property tax coverage below.

### *Property Valuation and Assessment of Tax Liability*

Since 1986, the basis for property appraisal has been capital value. Valuations are conducted by regional tax offices and are to be carried out every three years, except in cases of rapid development where they may be undertaken on an annual basis. Both mass and individual appraisal techniques are employed, with the former the dominate means in urban and rural sectors.

Mass appraisal methods are based on a system whereby all individual land parcels and structures are first (and separately) categorized<sup>2</sup> according to, among other things, their location or zone and their age and building materials used in construction, respectively. The capital or “sales” value of the tax object (nilai jual objek pajak--NJOP) is then determined by the application of class-specific unit values (i.e. rupiah amounts per square meter) to individual land parcel and building floor area. Valuations in the estates, forestry, and mining sectors (the so-called P3 sectors: perkebunan, perhutanan, and pertambangan) are done, in large part, individually and are based on formulas which use output or income to proxy capital value<sup>3</sup>. Government regulations note that actual property (sales) transactions data may also be used to determine capital value. In practice such methods appear not to be used with any regularity.

Given some estimated capital value of properties, the taxable amount is determined by first subtracting off the “standard deduction” (NJOPTKP). The maximum allowable NJOPTKP (which is applied once for each individual taxpayer—not for individual tax objects) is currently set at Rp 12 million. Central government deconcentrated tax offices are allowed to set the NJOPTKP at levels below the maximum for the kabupaten/kota within their areas of responsibility. Most, apparently, do so; the current NJOPTKP for Jakarta, for example, is Rp 10 million.

The “assessment ratio” (NJKP--nilai jual kena pajak) is then applied to this net amount. Prior to 2001, the NJKP was 20 percent for all properties in all sectors. Now, the applicable NJKP is either 20 or 40 percent, depending on sector and appraised value of the individual property. The NJKP is 40 percent for all properties in the estates and forestry sectors and for those urban and rural sector properties whose capital value exceeds Rp 1 billion. All other properties have assessment ratios of 20 percent.

Finally, tax liabilities are determined by multiplying the assessed values by the tax rate, currently set at 0.5 percent.

### *Tax Billing and Collection*

Responsibility for tax billing and collection is, officially at least, divided between central and local governments. The central government deconcentrated property tax office typically prints and sends a notification of taxes due (Surat Pemberitahuan Pajak Terutang--SPPT) to each taxpayer in its region and an indication of where the tax should be paid (typically a near-by branch of a state bank). In some areas of the country, especially the urban and rural sectors, the tax bill is hand delivered by the local government. Local governments are also in charge of following up on tax collection in urban and rural sectors after billing has been carried out. Central government tax

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<sup>2</sup> The classification systems for land and buildings have 50 and 20 distinct categories, respectively.

<sup>3</sup> For the gas and oil sub-sector of mining, for example, the capital value of “productive” land is estimated as 9.5 times the annual gas and oil sales of Pertamina (state oil company) under its production sharing arrangements with various contractors and partners. Capital valuation of other associated land and structures in the sub-sector follows the normal mass appraisal techniques based on the classification system outlined above. Similar mixed procedures prevail in other mining sub-sectors, as well as in the estates and forestry sectors.

offices are responsible for property tax collection follow-up in the estates, forestry, and mining sectors.<sup>4</sup>

#### *Enforcement: Administrative and Criminal Sanctions*

Administrative sanctions may be applied if a taxpayer (1) fails to provide relevant information to the tax authorities, (2) provides false or incomplete information leading to an underestimation of tax liability, or (3) does not pay tax liability in full or on time. Penalties for the above are: (1) 25 percent of tax payments due, (2) 25 percent of the difference between real tax liability and taxes paid, and (3) 2 percent per month (of taxes owed) for a maximum period of 24 months. After the two year period has elapsed, the government has the right to seize the property in question if payments have still not been made.

Criminal penalties may also pertain, according to the law. A taxpayer may be jailed for a period of up to 6 months and fined a sum that equals two times taxes owed if he/she fails to provide the SPOP to tax authorities. If the courts determine that this failure was intentional, the jail term may be up to 2 years and the fine equal to five times tax liability. Should certain third parties fail to provide relevant information to the tax authorities, jail terms of up to one year and penalties of up to Rp 2 million may apply.

Both administrative and criminal sanctions are apparently routinely ignored in practice.

#### *Distribution of Property Tax Receipts*

Property tax receipts are shared among the central government, provinces, and kabupaten/kota. As of 2001, central government, in the first instance, retains 10 percent of total property taxes. In the event, this sum is distributed across kabupaten/kota (6.5 percent in equal amounts across all localities and 3.5 percent to places based on their attainment of previous year's urban and rural property tax revenue target.)

Provinces receive 16.2 percent and kabupaten/kota 64.8 percent of property tax revenues. According to law, allocations to provinces and kabupaten/kota are done by derivation, except in the mining sector<sup>5</sup>. Finally, nine percent of total receipts are used to support collections in the regions. This money goes, in the first instance, to the

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<sup>4</sup> Collections for gas and oil property tax follow an altogether different procedure. Given an estimate of the tax liability in the sub-sector (see previous footnote), the Ministry of Finance simply requests Bank Indonesia to make a transfer of funds from Pertamina's "net operating income" account (held at Bank Indonesia) to the relevant local governments.

<sup>5</sup> The allocation of property tax revenues in the gas and oil sub-sector depends on whether it derives from on- or off-shore production. On-shore amounts are distributed by derivation. Off-shore amounts are distributed in ad-hoc (and negotiated) ways which vary from year to year. Often, off-shore gas and oil allocations are based, at least in part, on the distribution of urban and rural sector receipts. That is, a kabupaten's allocation from the oil and gas sector (off-shore) depends directly on its relative contribution to overall urban and rural sector receipts. As such, the distribution of tax revenues in this sub-sector is more even than one would anticipate, given the spatial concentration of gas and oil production in the country.

central government deconcentrated tax offices and may then be distributed, at least in part, to local government tax collection offices.

### III. Recent Performance of Property Taxation

Table 1 provides some basic information on the revenues derived from the property tax in Indonesia compared to other countries in the region and in the west. As the table shows, property tax yields in Indonesia are about the same as in neighboring developing countries in relative terms (although Indonesian property tax revenues as a percentage of total local budgets tend to be smaller than other developing places). Property tax yields in Indonesia are, however, significantly lower than other, more developed countries, in terms of their overall contribution to sub-national budgets, relative to total domestic revenues, and compared to gross development product.

**Table 1: Property Tax Revenues in Various Countries**

Country	Level of Government	As Percentage of Sub-National Rev	As Percentage of Domestic Rev	As Percentage of GDP
Thailand	Local	7.90	1.05	0.17
Thailand	Local and National	n.a.	1.59	0.26
Philippines	Local	14.16	1.54	0.29
Malaysia	State	9.26	1.34	0.35
<b>Indonesia</b>	<b>Local</b>	<b>5.16</b>	<b>1.10</b>	<b>0.22</b>
<b>Indonesia</b>	<b>Local and State</b>	<b>6.28</b>	<b>1.69</b>	<b>0.36</b>
Singapore	National	n.a.	3.32	1.13
Japan	Local	23.06	8.85	1.79
Japan	Local and National	n.a.	13.06	2.64
Australia	Local	44.78	2.65	0.97
Australia	Local and State	14.22	7.29	2.68
Canada	Local	37.83	6.90	3.09
Canada	Local and State	13.09	8.75	3.92
US	Local	27.98	7.02	2.46
US	Local and State	13.20	7.74	2.71

Notes: Data for Indonesia are estimates for 2001. All others are for the most recent year available, typically 1999.

Source: Author's own calculations based on data from Ministry of Finance, Indonesia and International Monetary Fund (2001a and 2001b).

Revenues from the Indonesian property tax have increased at a rapid pace since the mid-1980s. Property tax receipts have grown just over 23 percent annually, on average, since 1986. In real terms, property taxes have grown 10 percent per year; during the same period, real gross development product grew at a rate of about 4.5 percent. See Table 2 for some basic data on the level and growth of property tax revenues during the reform period.

**Table 2: Property Tax Revenues in Indonesia Over Time**

Fiscal Year	Property Tax Revenues (Rp Milyar)	Nominal Growth (Percent)	Real Growth (Percent)
1986/87	244.1		
1987/88	316.0	29.5	19.6
1988/89	367.8	16.4	10.1
1989/90	615.0	67.2	56.1
1990/91	771.0	25.4	14.1
1991/92	941.3	22.1	12.4
1992/93	1,091.1	15.9	9.0
1993/94	1,485.9	36.2	23.7
1994/95	1,686.9	13.5	3.7
1995/96	1,909.1	13.2	4.4
1996/97	2,437.6	27.7	18.7
1997/98	2,628.4	7.8	-16.0
1998/99	3,298.9	24.8	-16.5
1999/00	3,267.3	-1.0	-4.7
2000*	3,562.1	9.0	2.0
2001	5,287.0	48.4	31.9
Average		23.2	10.1

\* denotes a nine month fiscal year.

Source: Author's own calculations based on Ministry of Finance Nota Keuangan (various years) and Ministry of Finance, Directorate General of Tax (2001).

The mining sector has traditionally accounted for the largest portion of property tax receipts.<sup>6</sup> During the thirteen year period starting in 1987, the mining sector's share of total property tax revenues, in fact, grew from about one-third to over one-half. Mining sector receipts continue to grow at a significantly better than average pace. Properties in the urban sector are next most important; they have made up a nearly constant share of about one-third of the total since the mid-1980s and their growth has remained steady.

The rural, estates, and forestry sectors are of significantly less importance to overall property tax revenues; as of 2000, properties in those sectors accounted for just 7.5, 5.6, and 3.7 percent of total receipts. Growth in rural property taxes has been about half of the overall rate and receipts have been steadily declining in importance; one would expect this trend to continue, given increasing urbanization. Receipts from estates have also shown below average growth in recent years, although this might be expected to change given the recent doubling of the sector's assessment ratio. Property tax revenues in the forestry sector have, in fact, grown most rapidly over the past number of years, increasing at a rate of almost 26 percent per year in nominal terms during 1987-2000.

<sup>6</sup> The gas and oil sub-sector dominates mining sector property tax revenues. In fiscal year 1997/98, gas and oil property tax receipts accounted for 82 percent of the total for the mining sector.

Table 3 reviews some basic sector-specific information on property taxes during the recent period.

**Table 3: Property Tax Revenues in Indonesia by Sector (Rp Milyar)**

Sector	Revenues		Revenues		Annual Growth
	1987/88	Percent	2000	Percent	
Urban	95.1	30.1	1,084.3	30.4	21.0
Rural	76.8	24.3	267.5	7.5	10.3
Estates	32.3	10.2	198.8	5.6	15.3
Forestry	7.0	2.2	132.4	3.7	25.9
Mining	104.8	33.2	1,879.3	52.8	25.4
Total	316.0	100.0	3,562.3	69.6	20.9

Source: Author's own calculations.

Property tax level and growth performance varies significantly across regions, as well, of course. Jakarta property taxes make up the largest share of the total among provinces, accounting for just less than 14 percent as of 2000. Property tax receipts have grown most quickly in Jakarta, as well--just less than 25 percent annually, in nominal terms, over the recent years. Other provinces where property taxes are important include Jawa Barat and Jawa Timur. Revenues in those two places account for 13.2 and 11.3 percent of the total, respectively. In general, property tax receipts have grown more quickly on Java-Bali than other places in Indonesia. See Table 4 for a breakdown of the level, proportion, and growth of property taxes by province during the period 1990/91 through 2000.

**Table 4: Property Tax Revenues in Indonesia by Province (Rp Milyar)**

	Revenues		Revenues		Annual Growth
	1990-91	Percent	2000	Percent	
1 D.I. Aceh	40.5	5.3	108.5	3.0	10.6
2 Sumatera Utara	51.7	6.7	205.0	5.8	15.2
3 Sumatera Barat	8.0	1.0	62.2	1.7	23.4
4 Riau	64.6	8.4	194.8	5.5	12.0
5 Jambi	13.7	1.8	67.1	1.9	17.7
6 Sumatera Selatan	52.1	6.8	146.4	4.1	11.2
7 Bengkulu	3.7	0.5	24.6	0.7	21.4
8 Lampung	16.2	2.1	66.2	1.9	15.5
9 DKI Jakarta	62.6	8.1	488.9	13.7	23.5
10 Jawa Barat	84.2	10.9	470.1	13.2	19.3
11 Jawa Tengah	45.6	5.9	253.3	7.1	19.2
12 D.I. Yogyakarta	5.1	0.7	32.0	0.9	20.7
13 Jawa Timur	72.9	9.5	402.0	11.3	19.1
14 Kalimantan Barat	8.8	1.1	60.0	1.7	21.8
15 Kalimantan Tengah	26.7	3.5	85.7	2.4	12.7
16 Kalimantan Selatan	26.3	3.4	88.0	2.5	13.2
17 Kalimantan Timur	79.2	10.3	198.9	5.6	9.9
18 Sulawesi Utara	6.0	0.8	32.9	0.9	19.1
19 Sulawesi Tengah	6.8	0.9	25.6	0.7	14.6
20 Sulawesi Selatan	22.0	2.9	139.6	3.9	20.9
21 Sulawesi Tenggara	4.9	0.6	22.2	0.6	16.8
22 Bali	7.6	1.0	54.6	1.5	22.4
23 Nusa Tenggara Barat	5.3	0.7	34.1	1.0	21.0
24 Nusa Tenggara Timur	8.7	1.1	50.5	1.4	19.8
25 Maluku	17.1	2.2	41.5	1.2	9.5
26 Irian Jaya	29.1	3.8	207.4	5.8	22.3
27 Timor Timur	1.7	0.2			
Totals	771.1	100.0	3,562.1	100.0	17.0

Source: Author's own calculations.

#### IV. Estimating and Explaining Property Tax Performance

There are a number of possible ways to empirically evaluate property tax performance. The method used here is based on a simple model of ratios. (Linn, 1980; Bahl and Linn, 1992). The model breaks down property taxes into its basic component parts. That is:

$$TR = \left( \frac{TR}{TL} \right) \left( \frac{TL}{AV_T} \right) \left( \frac{AV_T}{AV_A} \right) \left( \frac{AV_A}{MV_A} \right) MV_A \quad (1)$$

where

TR = Tax receipts;  
 TL = Tax liability;  
 AV<sub>T</sub> = Appraised value of taxed properties;  
 AV<sub>A</sub> = Appraised value of all taxable properties;  
 MV<sub>A</sub> = Market value of all taxable properties.

In words, the above equation translates into:

$$\text{Tax receipts} = \text{Collection ratio} * \text{Statutory tax rate} * \text{Coverage ratio} * \text{Valuation ratio} * \text{Tax base} \quad (2)$$

Dividing both sides of Equation 1 by the statutory tax rate and tax base (as defined above) and rearranging terms yields the following formulation.

$$\frac{\text{TR}}{\left(\frac{\text{TL}}{\text{AV}_T}\right)\text{MV}_A} = \left(\frac{\text{AV}_T}{\text{AV}_A}\right)\left(\frac{\text{AV}_A}{\text{MV}_A}\right)\left(\frac{\text{TR}}{\text{TL}}\right) \quad (3)$$

where all variables are as previously defined. The denominator of the term on the left hand side of the equation (the statutory tax rate times the market value of taxable properties) can be defined as potential tax receipts, given the current tax rate and tax base. In words, therefore, Equation 3 is:

$$\text{Ratio of actual to potential tax receipts} = \text{Coverage ratio} * \text{Valuation ratio} * \text{Collection ratio} \quad (4)$$

The left hand side of Equation 3 is the short-fall of actual property tax receipts to potential receipts (given the current tax rate and base) and may be considered as a measure of the under-performance of property tax administration. In addition to supplying a summary measure of property tax under-performance, an estimation of Equation 3 would make clear the relative importance of various administrative factors in contributing to that under-performance.

The above model has been implemented for Bogota, Colombia and an under-performance ratio of 0.501 was derived (Linn, 1980). The results for Bogota indicated that the short-fall in performance of the property tax was to a large extent explained by inefficient collections (0.682). Problems related to under-coverage (0.867) and under-valuation (0.847) were apparently relatively less important.

Below, some empirical results related to coverage, valuation, collection performance, the tax rate, and tax base in the urban and rural sectors of the Indonesian property tax are presented and discussed. The results are then used to estimate the simple model specified above.

### *Coverage Ratios*

DGT generates data on physical coverage. That is, they determine the percentage of taxable land, by hectare, that is actually taxed. Shah and Qureshi (1994) report that, in 1990/91, the amount of taxable urban land that was taxed was 36 percent while the taxable rural land that was taxed was 69 percent. Machfud Sidik (2000) reports physical coverage figures for 1996/97. According to him, 71 percent of land in the urban sector that was taxable at that point in time was actually taxed; the comparable figure for the rural sector was 52 percent. DGT provides similar figures for 2000. These internal data show urban and rural sector physical coverage ratios of 63 and 49 percent, respectively.

Of course, what the model described above requires is the appraised value of land and buildings that is taxed relative to the total value that is taxable. While data on the former exist (i.e. NJOP of taxed land and buildings), there is no information on the appraised value of untaxed but taxable property (only the associated number of hectares). It is assumed here therefore that the appraised value of untaxed but taxable property is comparable (in value per hectare) to that which is taxed (and for which we do have estimates). Given this assumption, country-wide coverage ratios as defined in the model above can be estimated for urban and rural sectors.<sup>7</sup> Under the comparable value assumption, the ratio of assessed value of taxed to taxable property in 1990/91 becomes 48 percent and 62 percent for urban and rural areas, respectively. In appraised-value terms, coverage ratios become 86 percent and 66 percent for urban and rural areas. Finally, appraised value coverage ratios for urban and rural areas for 2000 become 83 percent and 65 percent, respectively. Table 5 summarizes the results for the urban and rural sectors and for the two sectors combined for fiscal years 1990/91, 1996/97, and 2000.

**Table 5: Urban and Rural Property Tax Coverage Ratios**

Sector	1990/91	1996/97	2000
Urban	48.4	85.6	83.1
Rural	62.5	66.0	64.6
Total	51.5	80.7	79.6

Source: Author's own calculations.

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<sup>7</sup> If one assumes that those properties located at the outskirts of a city or town are more likely to be uncovered, then this assumption would appear to be unjustified. That is, it is expected that property values decline as distance from the center increases; as such, uncovered properties (i.e. by assumption those at the periphery) should be lower in unit value than average for a given place. However, some knowledgeable observers suggest that there are many uncovered properties located in or near the central business district of some cities, where assessed unit values would presumably be higher than average. Furthermore, the situation is complicated by the existence of multiple nodes in some kota and kabupaten (and more generally, obviously, in provinces—the unit of analysis here) and thus the existence of many such “average” unit values in a given place. As such, and without detailed knowledge of the value of covered and uncovered properties in each district or province, the comparable value assumption is retained.

The table suggests that coverage significantly improved between 1990 and 1996, increasing from 52 to 81 percent in assessed value terms for the local sectors as a whole. Since the mid-1990s, however, progress on this front would appear to have stalled somewhat. By the year 2000, overall coverage in the urban and rural sectors declined slightly to 80 percent.

### *Valuation Ratios*

The extent to which valuations conducted by government tax offices deviate from true market values is an important question on which hard evidence has been consistently lacking. A figure of 50 percent for the general ratio of government-appraised value to real market value has often been quoted (Shah and Qureshi, 1994), although no hard evidence to back up this estimate has ever been offered.

Machfud Sidik (2000) supplies data on a wide range of variables for 17,252 properties in Jakarta, other urban places, and some rural areas for fiscal year 1997/98.<sup>8</sup> Among the variables on which data were collected include appraised and market values<sup>9</sup>. These data can, therefore, be used to estimate valuation ratios in the urban and rural sectors. The sample of properties was not drawn with a view to producing unbiased and precise estimates of valuation ratios of all taxable properties in urban and rural areas, of course; as such, care should be taken in interpreting the results. The data were, however, compiled in the context of a project undertaken to improve valuation procedures inside DGT and, in any case, represent the only official information available. Derived valuation ratio estimates would appear to offer reasonable first approximations, at the very least.

See Table 6 for a summary of the estimation results. The table shows the estimated valuation ratios, NJOP, and estimated market values for covered properties in Jakarta, other urban places, and rural areas. The valuation ratios for Jakarta and other urban and rural places are derived from the data set described above (i.e. total appraised value divided by total market value for all properties in the particular location/sector). Valuation ratios for all urban and all local are NJOP (all figures from Ministry of Finance) divided by the estimated market value (the latter being NJOP divided by valuation ratio for Jakarta, other urban, and all rural places and the relevant sums for all urban and all local). As can be seen, the estimated overall urban valuation ratio is 66 percent, the valuation ratio for rural properties is 41 percent, and the valuation for all local properties is 59 percent. In the analysis below, the estimated urban, rural, and combined urban and rural valuation ratios that appear in Table 6 are taken as representative of all taxable properties in those sectors.

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<sup>8</sup> These data were collected and organized by DGT in the first instance.

<sup>9</sup> The author notes that market values are based on actual sales transactions data. Sales values are widely believed to be “adjusted” downwards before they are reported to regional government property tax offices, as required. The claim by Sidik and DGT is that the market values used in his study are property sale prices before undergoing such adjustments.

**Table 6: Comparison of Government-Appraised Values to Market Values, Covered Urban and Rural Properties, FY 1997/98 (Rupiah Figures in Billions)**

Place/Sector	Estimated Valuation Ratio	NJOP	Estimated Market Value
Jakarta	0.689	444,179	644,672
Other Urban	0.639	613,554	960,178
All Urban	0.659	1,057,733	1,604,850
All Rural	0.414	269,732	651,527
All Local	0.588	1,327,465	2,256,377

Source: Author's own calculations based on data from Sidik (2000) and Ministry of Finance.

### *Collection Ratios*

Estimates of collection efficiency can be generated from information supplied by the Ministry of Finance (DGT--Directorate Land and Building Tax, 2001). The relevant data indicate that in 1990/91, urban and rural property tax collection efficiency was 79 and 80 percent, respectively. In 1997/98 comparable efficiency ratios were 79 and 88 percent. In 2000, urban and rural collection efficiency was 79 and 83, respectively. Overall, tax collection efficiency in the local sectors improved only very slightly over the past decade, from 79 percent to 80 percent. See Table 7 for a recapitulation of the basic information.

**Table 7: Property Tax Collection Efficiency**

Sector	Ratio of Collections to Liabilities		
	1990/91	1997/98	2000
Urban	78.8	79.3	78.8
Rural	79.9	88.1	83.4
Total	79.2	81.1	79.6

Source: Author's own calculations.

It should be noted that tax collections here apparently include collections on property tax arrears as well as on basic liabilities for the year in question. Thus, in theory, it is possible to arrive at efficiency ratios that exceed 100 percent. DGT calls these efficiency ratios "optimistic". This optimism pertains especially to the estates, forestry and (non gas and oil) mining sectors. Tax collection efficiency in these sectors is typically at or near 100 percent, according to official figures; not infrequently, the reported figures are significantly above 100 percent.

Property tax policy in Indonesia during the reform period has been based on what officials refer to as a "collection-led" strategy. Thus, the focus has been on improving billings, payments, and enforcement. To operationalize the strategy, during the late

1980s and early 1990s, for example, the number of deconcentrated property tax offices in the country doubled and the so-called payment point collection system (SISTEP) was begun (Kelly, 1993; Mann, 2001). The stated concentration on collections notwithstanding, improvements in efficiency, as defined here, would appear to have been rather insignificant over the past decade, at least in the urban and rural sectors.

### *Statutory Tax Rate*

As noted above, the property tax rate has been fixed at 0.5 percent since 1985. Up until fiscal year 2001, the assessment ratio (NJKP) was 20 percent for all sectors. These two figures together result in a statutory tax rate of 0.1 percent. As discussed, the NJKP has recently been increased across the board for estates and forestry sectors and for higher value properties only in the urban and rural sectors. The current statutory tax rate would therefore fall somewhere between 0.1 and 0.2 percent. Data are not yet available to make a precise estimate of the current effective statutory rate.

The Indonesian statutory property tax rate would appear to be very low by world standards. By way of illustration, the comparable tariff in India is 2.6 percent (Shah and Qureshi, 1994); in the Philippines, the effective statutory rate ranges from 0.25 percent to 2.8 (Baraquero, 1991; Rosengard, 1998). In the United States, the median effective tax rate among municipalities was 1.6 percent in 1999 and ranged from 0.4 percent to 4.6 percent (United States Census Bureau, 2001). While there is obviously no necessarily right tax rate, it is probably safe to conclude that Indonesian tax officials have erred on the side of being rather too cautious in this regard.

### *Tax Base*

The real value of the property tax base is a question of interest and potential importance in its own right. Lerche (1976) estimated the market value of all land and buildings in Jakarta to be Rp 3.5 trillion at the end of 1973. Shah and Qureshi (1994) use Lerche's figure (and other assumptions) to yield an estimate of about Rp 500 trillion for the market value of all urban land and buildings in Indonesia as of 1990/91.

Unfortunately, there are no recent estimates of the market value of the property tax base in individual cities or for the nation as a whole. But, as a simple rearrangement of terms in Equation 1 makes clear, information on tax receipts and the effective tax rate can be used, together with estimates of coverage, valuation, and collection performance, to produce an estimate of market value of property.

See Table 8 below for a summary of the data discussed above on receipts, coverage, valuation, and collections and an indication of the implied value of the tax base (under the assumption of a statutory tax rate of 0.1 percent) for 1997<sup>10</sup>. As can be seen from the table, the estimated market value of the tax base in the urban and rural sectors is Rp 1,875 trillion and Rp 987 trillion, respectively. As noted above, the urban tax base in 1990/91 had earlier been estimated to be approximately Rp 500 trillion. The two urban

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<sup>10</sup> This latter year is chosen as a stylized fiscal year since data on coverage are for fiscal 1996/97 while data on valuations and collections are for fiscal year 1997/98.

tax base estimates together suggest an annual growth in the nominal value of the base during the period of 20-25 percent (depending on the cut-off date used for the end fiscal year). This would appear to be a realistic result or at least one that is consistent with other, independent estimates which suggest an appreciation of urban property values of 20 percent per year and an annual growth in new properties of three percent (Shah and Qureshi, 1994).

**Table 8: Property Tax Receipts, Administrative Performance, and Estimated Tax Base Value, 1997**

Sector	PBB Receipts (Rp Bln)	Coverage (%)	Valuation (%)	Collections (%)	Est. Tax Base (Rp Bln)
Urban	838.7	85.6	65.9	79.3	1,874,883.5
Rural	237.7	66.0	41.4	88.1	987,436.1
All Local	1,076.4	80.7	58.8	81.1	2,862,319.5

Source: Author's own calculations.

### *Explanatory Model Revisited*

As noted at the outset of this section of the paper, the main objective here is to estimate under-performance ratios as per the simple explanatory model in Equation 3. The multiplication of the estimated coverage, valuation, and collections ratios for the urban, rural, and combined urban-rural sectors for 1997 (reproduced in Table 8 above) yields the desired under-performance ratios for that year: 0.447, 0.241, and 0.385.<sup>11</sup>

These data suggest a rather significant under-performance in property tax administration in the local sectors for the year in question. Overall, just under 40 percent of potential revenues are realized in the urban and rural sectors together, taking the statutory tax rate and the value of the tax base as given. In addition, the results highlight clearly that the biggest problem in property tax administration in Indonesia is that of imprecise property valuations. Coverage is of less concern, in general, although performance in rural areas is clearly sub-standard in this regard. Overall, collection efficiency is least problematic among the administrative variables considered here.

## V. Potential Impact of Property Tax Decentralization on Local Budgets

This section of the paper simulates the potential impact of decentralizing the property tax on kabupaten/kota budgets. The assumption is that only the urban and rural (i.e. the local) sectors of the property tax are to be decentralized. Under the simulations presented here, the property tax in the estates, forestry, and mining sectors remain

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<sup>11</sup> The estimation of under-performance ratios can be done in two different ways, that is, as a function of either the left- or the right-hand side of Equation 3. The estimates discussed in the text above are based on the right-hand side method. The left- and right-hand side techniques yield equivalent results for the urban and rural sectors; but the two approaches do not produce the exact same result for the combined urban and rural sectors (0.376 and 0.385, respectively). The difference is due to various rounding errors.

under central control<sup>12</sup>. In addition, it is assumed that the levels of coverage, valuation, and collection performance derived and discussed above for 1997 remain valid for fiscal year 2001 (the year simulated below). All other estimates of sub-national revenues presented below are based on current best estimates.

Four basic cases are considered: (1) status quo, (2) all PBB becomes kabupaten/kota revenue, (3) generated local PBB increases to 70 percent of potential, and (4) realized local PBB increases to 100 percent of potential. Status quo refers to the current situation in all respects, that is, all property taxes are centralized and revenues are shared with provinces and kabupaten/kota, as described at the beginning of the paper. The second case assumes that the property tax remains centralized but that all revenue is shared only with kabupaten/kota. The third case simulates a decentralization of the urban and rural (i.e. local) property taxes and assumes an improvement in administrative performance from the current level of 40 percent of potential to 70 percent of potential. The fourth and final case assumes decentralization of local property taxes and “perfect administration”. Each of the above four cases is examined under three different rate structures: (1) current effective statutory tax rate, (2) a doubled rate, and (3) a tripled rate. Table 9 summarizes the results.

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<sup>12</sup> A proposal currently being discussed is to eventually roll the property tax transfers in these sectors (or at least those for forestry and mining) into the natural resource revenue sharing program.

**Table 9: Simulated Kabupaten/Kota Government Revenues, FY 2001 (Rp Billions)**

Source	<i>Status Quo</i>		<i>All PBB to K/K</i>		<i>70% Admin Perform</i>		<i>100% Admin Perform</i>	
	Revenue	Percent	Revenue	Percent	Revenue	Percent	Revenue	Percent
Own-Source	5,860	7.6	5,860	7.5	5,860	7.3	5,860	7.2
Local Prop Tax	1,586	2.1	2,115	2.7	3,701	4.6	5,287	6.5
Other Prop Tax	2,379	3.1	3,172	4.1	3,172	4.0	3,172	3.9
Rev Sharing	12,170	15.8	12,170	15.5	12,170	15.2	12,170	14.9
DAU	54,279	70.5	54,279	69.3	54,279	67.9	54,279	66.6
DAK	701	0.9	701	0.9	701	0.9	701	0.9
Total	76,976	100.0	78,297	100.0	79,884	100.0	81,470	100.0

Source	<i>Doubled Local Property Tax Tariff for Cases Above</i>		<i>70% Admin Perform</i>		<i>100% Admin Perform</i>		<i>100% Admin Perform</i>	
	Revenue	Percent	Revenue	Percent	Revenue	Percent	Revenue	Percent
Own-Source	5,860	7.5	5,860	7.3	5,860	7.0	5,860	7.0
Local Prop Tax	3,172	4.0	4,230	5.3	7,402	8.9	10,574	12.7
Other Prop Tax	2,379	3.0	3,172	3.9	3,172	3.8	3,172	3.8
Rev Sharing	12,170	15.5	12,170	15.1	12,170	14.6	12,170	14.6
DAU	54,279	69.1	54,279	67.5	54,279	64.9	54,279	64.9
DAK	701	0.9	701	0.9	701	0.8	701	0.8
Total	78,562	100.0	80,412	100.0	83,584	100.0	86,757	100.0

Source	<i>Tripled Local Property Tax Tariff for Cases Above</i>		<i>70% Admin Perform</i>		<i>100% Admin Perform</i>		<i>100% Admin Perform</i>	
	Revenue	Percent	Revenue	Percent	Revenue	Percent	Revenue	Percent
Own-Source	5,860	7.3	5,860	7.1	5,860	6.7	5,860	6.4
Local Prop Tax	4,758	5.9	6,344	7.7	11,103	12.7	15,861	17.2
Other Prop Tax	2,379	3.0	3,172	3.8	3,172	3.6	3,172	3.4
Rev Sharing	12,170	15.2	12,170	14.7	12,170	13.9	12,170	13.2
DAU	54,279	67.7	54,279	65.8	54,279	62.2	54,279	59.0
DAK	701	0.9	701	0.8	701	0.8	701	0.8
Total	80,148	100.0	82,527	100.0	87,285	100.0	92,044	100.0

Source: Author's own calculations.

There are many things that one might say about the results provided in the table. The main point is that improvements in property tax administration and increases in the effective property tax rate together can lead to quite a substantial expansion in property tax receipts. As the table shows, currently local property tax receipts make up only around 2 percent of total local revenues. But, at the limit, that is, given perfect administration and a tripling of the tax rate, this percentage increases to 17 percent. Moreover, the contribution of local own source revenues to total resources increases from less than 10 percent (under the current regime) to over 23 percent, at the limit. While such improved outcomes would not be expected to be achieved in Indonesia in the very short run, of course, the simulation is suggestive of what might eventually be accomplished.

## VI. Summary and Conclusions

This paper started by noting that one of the important arguments made by some Ministry of Finance officials for retaining control over property tax policy and administration is that the tax has performed very well under central direction. In one sense, the performance of property taxation in Indonesia has, indeed, been strong. Property tax revenues, typically considered by analysts to lack buoyancy, have grown remarkably well since the mid-1980s. At around 10 percent per year, real growth in property tax revenues has exceeded that of gross domestic product by a factor of more than two.

Several things immediately detract from this apparently strong growth performance, however. First, growth has been from an extremely low base. Second, growth has been dominated by two of the P3 sectors: forestry and, especially, mining. These sectors are “easy targets”; that is, tax objects are relatively few in number and highly visible and state owned enterprises predominate operationally. Finally, the strong average growth performance has, to a large extent, been driven by a relatively limited number of places, especially Jakarta and other urbanized areas on Java-Bali.

By international standards, performance of the Indonesian property tax must be judged as disappointing. It is true that property tax yields in Indonesia are not dissimilar to those of other developing countries in the region (where the tax is mostly locally administered, one might add). But property tax revenues relative to total sub-national revenues, total domestic revenues, and gross domestic product are extremely low in Indonesia compared to other developed countries, both inside and outside the region (where the property tax is also a local one).

The empirical examination in this paper suggests that central administration of the property tax in Indonesia has been somewhat short of outstanding, at least in the urban and rural sectors. The analysis here estimates that property tax yields in the local sectors were only about 40 percent of potential levels in 1997, given the current rate and base. Valuations are the most problematic aspect of property tax administration. There is some evidence to suggest that government appraisals of taxable property make up only about 60 percent of real market values, on average. Tax coverage and collection are less worrisome but still weaker than one might expect; moreover, improvements here would appear to have stalled in recent years. The relevant coverage and collection ratios are currently around 80 percent for both, as they have been since at least the mid-1990s.

While central performance has been uninspiring, it does not necessarily follow, of course, that local administration of the tax would be better. That is, local capacity may indeed be insufficient to induce improvements. However, on further reflection this line of reasoning turns out to be specious. To the extent that a local capacity problem exists, it could rather be easily solved by transferring central (already deconcentrated) staff to local governments.<sup>13</sup> The transferred employees would carry their presumed (relatively

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<sup>13</sup> There are approximately 7,000 central government employees working on property tax issues in the regions.

higher level of) competence with them, thereby automatically improving technical capacity among local governments. Such a transfer has recent precedence in other newly decentralized sectors, where it was carried out without great difficulty and disruption to central and local government operations.<sup>14</sup>

But even before administrative functions and personnel are devolved, decentralization of the tax could begin by transferring some authority to local government over tariff setting, at least in the urban and rural sectors. As noted above, Indonesia has an extremely low property tax rate compared to other places in the world. There is clearly much scope to increase tariffs and the payoff would be substantial, as demonstrated above. If lower bounds were set at current levels (and upper bounds were also set, perhaps, to protect against abuse), then local governments could do no worse than the central government has done over the past fifteen years and, given relatively higher levels of motivation than the center, they might even do better.

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<sup>14</sup> During fiscal years 2000 and 2001, over two million central government employees were transferred to provincial and local governments in the context of implementing the government's fiscal decentralization program.

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