Land Taxation and Tax Reform in the Republic of Estonia

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Abstract

Like other former Soviet republics, Estonia's budget (tax and expenditure authorities) was tied to the all-Union budget of the USSR. In 1990, Estonia began the reformulation of its own budget and the restructuring of the tax system. In 1993, the Estonian Parliament passed the Law on Land Tax to go hand in hand with land restitution and ownership reform. The paper begins with a historical overview of land taxation in Estonia leading up to the current (1995) land tax. Next, it offers a statistical model for estimating land tax revenues. The model estimates are then contrasted with actual data obtained from the Estonian National Tax Board. The paper finds that land tax revenues are modest at best, accounting for only 7 percent of local revenues. The results of the analysis indicate that both tax bases and tax rates need to be reviewed annually to enhance the tax capacity of municipal government.

Introduction

On May 10, 1993, the Estonian parliament passed the Law on Land Tax as a part of a reform agenda dealing with budgetary reform in general and land reform in particular. Before independence, Estonia's budget was closely tied to the all-Union budget of the USSR; the rules governing revenues and expenditures were spelled out in 1941 by newly enacted budget laws and the 1940 constitution.

Reformulation of the Estonian budget started well before the re-establishment of independence. In 1990, revenues transferred from Estonia to the budget of the USSR were reduced and then halted in 1991. During 1990–91 the government introduced a new tax system that replaced the Soviet system and the state budget was completely severed from the all-Union budget. Over the next five years, the structure of state revenue was overhauled and budget reform established.

This paper provides an overview of land taxation in Estonia and addresses two issues: (1) assignment of tax sources between the state and local governments and (2) the significance of land taxation as a local tax source in meeting the financial needs of local governments. The paper concludes with a few observations on the efficiency of land taxes compared to alternative forms of taxation, particularly for newly emerging market economies.

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Land Taxes: An Overview

The taxation of land and improvements on land (structures) was a major source of revenue for rural municipalities (communes) in pre-Soviet Estonia. Rural communes were subjected to two types of taxes: (1) a tax on fixed assets consisting of land and buildings and (2) supplementary tax on these fixed assets. Land and buildings in urban areas were also subject to taxation but at higher tax rates. In both rural and urban municipalities, the base was the assessed value, with the "taxable" base defined for each land class. In 1937–38, the land tax (land and structures) collected from rural communes contributed 30 percent to local budget tax receipts. The average effective tax rate was about 0.2 percent (Ott 1996).

Land Taxes in Soviet Estonia

The incorporation of Estonia into the Soviet Union in 1940 nullified its budget of 1940—expenditures and tax systems—in favor of the all-Union budget structure. As of January 1, 1941, all then existing legal taxes and duties were suspended, and new taxes and duties decreed. Of interest is the method of taxing land under the Soviet system. Two taxes were imposed: a tax on building and a tax on land rent. Land, as an asset, was not subject to the tax.

The Buildings Tax—The tax base under the building tax was comprehensive. The building tax applied to all types of structures including dwellings, factories, warehouses, theaters, churches, and other places of worship. The only exemptions allowed were for state buildings and defense structures. Tax rates on buildings were set according to "use" of the structure as follows:

- On buildings of state-owned industrial enterprises, the tax levied was equal to 0.75 percent of the book value of the structure with no allowance given for depreciation of the structure.
- A 0.5 percent tax rate was imposed on buildings of state and cooperative industrial enterprises engaged in the production of building materials. The tax base was defined as the value of the building net of depreciation allowance.
- Buildings in use by the "socialized" sector were subjected to a tax rate of 1 percent of the book value without deduction for depreciation allowance.
- The rate applicable to buildings belonging to workers and cooperatives was equal to 0.75 percent of the insurance-rate-based value.
- The levy imposed on buildings belonging to individuals with "unearned income" was set equal to 2 percent of the insurance-rate-based value. (If the insurance rate value could not be determined the department of finance would set the value.)

The building tax was collected from either users or owners of the building, with tax payments due in three equal installments for state organizations and in two installments for private persons.

Land Rent Tax—The land rent tax was levied on all land including vacant land. This tax resembles site value taxation in that it taxes "use value" of land whether the land is put into service or remains vacant. Land exempt from the rent tax included land used by cooperatives and state organizations, as well as land on which structures have been erected for use of camps, airfields, military units, and railways. Land in agricultural use, the income of which was subject to the agricultural tax and the buildings tax, was exempt from taxation. Also exempt was land of cemeteries; land used by representatives of foreign countries (that is, the diplomatic corps); medical institutions and institutions for the disabled; and land used by workers for gardening and hay-making.

For the determination of land rent tax rates, the settlements of the Estonian SSR were divided into seven categories:

Category 7: the city of Tallinn
Category 6: the town of Tartu
Category 5: the towns of Pärnu and Narva
Category 4: settlements with population over 10,000
Category 3: settlements with population between 5,000–10,000
Category 2: other settlements with population up to 5,000
Category 1: rural areas

For each of these categories, land use was classified according to the type of user:

- Class 1 for land use by state-owned industrial enterprises (building as well as vacant land)
- Class 2 for land use for trade and office space and for warehouses, except warehouses for common use
- Class 3 for land use for other facilities including open warehouses for common use
- Class 4 for land use for kitchen gardens and yards and land belonging to industrial enterprises other than state enterprises

Table 1 shows marginal rates of land rent by category and class of use. Land use in the city of Tallinn was subjected to the highest land rent in each class of use. Trade and office space in the city (class 2) commanded the highest rent followed by land use of other types of enterprises (class 3). The other two classes of use (class 1 and class 4) had the lowest tax burden.

Table 1
Marginal Rates of Land Rent Tax in 1941
(in Kopecks (1/100 of Ruble)
per Square Meter)

	Class			
Category	**1**	**2**	**3**	**4**
1	0.5	6	2	0.5
2	1	12	4	1
3	2	24	7	2
4	3	36	10	3
5	4	60	15	4
6	5	80	20	5
7	6	100	25	7

Source: Decree of The Supreme Soviet of the Estonian SSR on local taxes and duties (Tallinn 1941), in Russian.

It is worth noting that the determination of land rent described above is consistent with the bid rent functions for land use in the monocentric city, where the bid rent is highest for use of trade and office space and lowest for other types of use. Location and density of population were also considered in differentiating between land rent in urban areas, the urban fringe, and rural areas (Ott 1998). Also of interest is the fact that both the tax on buildings and the land rent tax were local taxes for the use of local governments. In addition to these receipts, local governments received an allocation from the state budget, with the allocation formula determined for each type of tax levied by the state and by type of settlement (rural or urban).

We can infer from a closer look at the structure of the buildings and land rent taxes that the overriding goal behind these taxes was "social" rather than economic. In other words, because of the significant number of exemptions allowed and the relatively low rates of taxation applied to state enterprises, tax collections were likely to be modest at best. The relatively higher tax rates imposed on "private" users served to discourage private use in favor of the "socialized" use of resources.

Land Taxation in the Republic of Estonia

The foundation for tax reform was laid down in the late 1980s with the declaration of sovereignty by the Estonian Supreme Council on November 16, 1988. This declaration made "null and void" all Soviet Union laws that were in conflict with Estonia's sovereignty. Within a year, the law on the fundamentals of local self-government, together with the law on the budget and taxation laws, were adopted. The form of government and fiscal relations between the state and localities were resolved by legislation during 1993. First, the parliament decreed that the Republic of Estonia should have a one-level, self-government system; self-government administration is organized only in communes and towns, and state administration in the counties is through the regional authorities. Second, with the passage of the Local Government Law, the Law on Municipal Budgets, the Law on Taxation, the Law on Land Tax, and the Law on the Relationship between Municipal Budgets and the State Budget, tax sources were designated, responsibility for expenditures allocated, and transfers from the state budget to municipal budgets prescribed.

The state tax structure includes an income tax levied on persons and enterprise income, a value-added tax, an excise tax, and the land tax. Revenue from all state taxes but the income and the land tax accrues to the state budget. Income tax imposed on natural persons (the personal income component) is a shared revenue source between the state and municipal governments (52 percent of revenues is allocated to local budgets). The Law on Local Taxes adopted by the Parliament on September 21, 1994, designated nine tax sources for the use of local governments: a poll tax on inhabitants of the municipality or town who are between the ages of eighteen and sixty-five; an income tax to be levied on enterprises located in the territory of the municipality or town (and whose income is subject to the National Income Tax Law of 1993); a sales tax collected from persons engaged in "entrepreneurship" in the town or municipality; a boat tax paid by owners of boats; a commercial and advertisement tax; and a motor vehicle tax levied on owners of motor vehicles. The remaining three taxes are in the form of fees, including a tax for keeping animals, a tax for closing the roads and streets for agricultural events, and an entertainment tax paid by organizers of recreational activities.

Of note is the fact that the land tax was not among the taxes prescribed by the Law on Local Taxes. Rather, it was part of the state tax structure spelled out by articles of the Law on Taxation (passed on December 16, 1993). The Law on Land Tax (in force from July 1993) designated land as a tax source to be "shared" between the state and local governments. The land tax would apply to all land (except for exempted land specified in article 4 of the Law), with the tax base defined as the market value of taxable land.

Two tax rates were decreed by the law: a state (or national) rate which was set equal to 0.5 percent of the tax base, and a local rate, which was to be decided by municipalities within a band of 0.3-0.7 percent. However, the law stipulated that for both 1993 and 1994, the local rate would be equal to the national rate, or 0.5 percent. Also during this period (until 1995), both the national tax and the local tax would be levied on (collected from) the user until private

ownership of the land was established. (If a private owner was in possession of the land, then the tax would be paid by the owner.)

Over the next two years, several modifications to the Law on Land Tax were incorporated into the Law of Change in the Land Tax Law enacted by the Parliament on June 1, 1995. In addition to amending certain provisions contained in the earlier versions of the Law on the Land Tax, this law abolished the national land tax. Hence, land as a tax source was reserved for local governments. The amended law contains four main elements: (1) definition of the tax base, (2) classification of land for tax purposes, (3) permissible tax rates, and (4) tax collection. Although common in almost all tax legislation, these elements take on an added dimension in the Estonian context. That is, land taxation is a part and parcel of social and economic reforms taking place in Estonia. These dimensions will become clearer as we discuss the law.

Defining the Tax Base—The market value of land is the basis for taxation. By choosing the market value concept, the law in effect places a value greater than zero on the use of a scarce resource and provides for the allocation of a scarce factor among competing uses. Because no market for land existed during the Soviet regime, valuation of land for tax purposes establishes a "near-market"-based value providing an inducement for the price system to function. Over time, through the exchange of land holdings in the market, and in the process of settling disputes over the assessed value of land parcels, correct valuations reflecting supply and demand forces will be reached. A social objective is also served by defining the taxable base as the market value of land. Because land restitution, compensation and substitution for land not returned to the former owner, is a major component of land reform, this definition avoids the "appearance" of favoritism that would exist if assessment were based on other criteria.

The Assessed Price (Value) of Land—Valuation for the purpose of land taxation is outlined in details in the Law of Land Valuation of 1993 and Right Law of 1993. Subsequently, the valuation law was revised (1994) and a governmental decree was issued (decree no. 36, January 24, 1995). The valuation law, as amended, distinguishes between four classes of land for tax purposes: urban land, agricultural land, forestland, and other land. The valuation method follows three steps: setting a base price for land in each class, assigning zone values of land, and identifying factors to be used for adjusting land prices to account for variations between land parcels (Ott 1998). The Estonian National Land Board is responsible for valuation. Municipal governments, however, must approve the valuation presented to them by the land board.

Once the valuation is approved, land prices are entered into area maps to be displayed at the municipal offices. Taxpayers, after inspecting the valuation maps, have the right to dispute the assigned values by appealing to the land board within two weeks. The board is also given two weeks from the time of appeal to resolve the dispute.

Classification—Land classification for tax purposes is common. A country's tax system usually serves multiple objectives—from raising revenues to finance public sector activities to effecting social and economic goals. Until recently, the two notable examples for classification were farming (agricultural land) and residential land (housing). Of late, environmental concerns put limits on the use of land for productive activities, resulting in the withdrawal of certain land parcels from the tax base or giving the land a preferential tax rate classification to promote "safe" use. Estonia's land tax recognizes three broad classes of land for tax purposes: tax-exempt land, restricted-use land, and agricultural land.

Tax-exempt land includes land protected by environmental law (natural reserves), land used by foreign governments, land in public use, and land in use by tax-exempt organizations. (Land belonging to cemeteries is also treated as tax exempt. This exemption is likely to disappear in the future once the land is privatized.) Restricted land is land (defined by governmental decrees) where economic activity is restricted. The restriction is either environmental or in the social interest. Preferential tax treatment is accorded this class of land.

Agricultural land (arable land and grassland) is perhaps the most significant land classification. As is the case in most countries, agricultural land receives preferential tax treatment on social and economic grounds. Advocates for this classification often argue that subsidization (lower tax payments) provides benefits to poor farmers who otherwise could not remain in farming. Keeping land in agricultural use also benefits urban residents (in addition to supplying farm product) by preserving diversity of landscape and delaying urban development, hence improving the quality of life in urban areas. A more compelling reason for Estonia is the decline of the agricultural sector's share in the export market following independence. Farm income and prices have not kept pace with the rise in income and prices in other sectors of the economy, which makes it difficult for many farmers to

meet the cost of production and distribution. Selling farmland for urban development is an option that may be exercised by farmers in the future. Currently, however, there is little if any demand. Exceptions are likely to be for land on the fringe of Tallinn.

Tax Rates—The Law on Land Tax, as amended, provides for two rates to be applied to two classes of land. A municipal tax rate is applicable to all land not classified as arable land or natural grassland, and a lower tax rate is levied on arable land and natural grassland. Each municipal government is given the responsibility of setting its own tax rate within specified limits. The municipal rate is restricted to 0.8–1.2 percent per year of the assessed price of land. Municipal governments are allowed to change the tax rate annually, but only at the beginning of the fiscal year. The rate applicable to arable land in agricultural use and natural grassland, as decided by municipal governments, must be in the range of 0.3–0.7 percent per year of the assessed price of land.

Collection and Enforcement—Two national boards share with municipal governments the task of administering the land tax. The Estonian National Land Board has the task of valuing land, although the board valuation must gain the approval of municipalities. The Estonian National Tax Board collects and enforces taxes, with the proceeds allotted to the budgets of municipalities.

Revenues of the Land Tax: Actual versus Estimated

On the basis of the land board valuation maps and the land cadastre land stock information the taxable base for each municipality can be calculated for each class of land use as follows:

$$TAX\ BASE_i = \sum_{j=1}^{4} (CLASS_j \times P_j), \qquad (1)$$

where,

i = 1 , . . . , n is the number of municipalities
$CLASS_j$ = size of area in hectares in class type j (a hectare is 2.47 acres)
P_j = average price per hectare for class type j assigned by the area map
j = 1: arable land (*Haritav*)
j = 2: natural grassland (*Looduslik rohumaa*)
j = 3: forestland (*Mets*)
j = 4: other land (*Muu*)

Two tax rates are applicable to this base: the municipal rate (m), which applies to all land not classified as agricultural land, and the agricultural land tax rate (a). Given the tax base and tax rates, tax revenues were calculated for each of the 198 rural municipalities.

$$LANDTAX_i = \sum TAXBASE_{ij} \times t_{ij} . \qquad (2)$$

Since only two rates are levied, estimating total taxes raised involved two calculations: the tax base for agricultural land (B_1 = Class 1 + Class 2), and the base for nonagricultural land (B_2 = Class 3 + 4). Hence, for each municipality,

$$LANDTAX_i = B_{i1}t_{ia} + B_{i2}t_{im} . \qquad (2)$$

Total tax revenues for all municipalities are:

$$LANDTAX = \sum_{i=1}^{n} (B_{i1}t_{ia} + B_{i2}t_{im}) . \qquad (3)$$

Average effective tax rates on land for each rural municipality are calculated as the ratio of total taxes paid to total tax base. Because not all the data were available for all variables the sample size was reduced from 198 to 191 municipalities. Summary statistics are given in table 2. Tax bases, tax yields, and effective rates by county levels are in table 3.

Table 2
Estonia's Land Tax: Summary Statistics

Variable	*N*	Mean	Standard deviation	Minimum	Maximum
Price of arable land (kr/ha)	194	6,156.2	2,465.7	679.0	11,389.0
Price of grass land (kr/ha)	194	1,585.3	543.7	366.0	2,940.0
Price of forest land (kr/ha)	194	3,558.7	596.0	1,580.0	4,924.0
Price of other land(kr/ha)	194	1,009.5	265.0	310.0	1,970.0
Municipal tax rate (%)	197	0.8269	0.4317	0.0	1.20
Agricultural tax rate (%)	197	0.4066	0.2270	0.0	0.70
Arable land (ha)	198	5,606.2	3,098.9	1.0	16,279.2
Grass land (ha)	198	1,229.5	788.8	1.0	6,244.0
Forest land (ha)	198	4,145.2	2,310.9	0.3	13,243.0
Other land (ha)	198	118.0	145.0	0.7	9,785
Tax base (000's kroon)	192	55,604.3	35,982.1	2.5	201,394.6
Taxes on agricultural land (000's kroon)	191	156.8	153.0	0.0	817.5
Taxes on other land (000's kroon)	191	128.5	104.2	0.0	544.9
Total taxes (000's kroon)	191	285.3	236.9	0.0	1,196.4
Effective rate (%)	191	0.541	0.301	0.0	1.044

Note: In calculating tax revenues, no allowances were made for exempt land in rural municipalities; hence the calculations may overestimate the base.

Table 3
Estimates of Tax Bases, Tax Revenues and Average Effective Tax Rates for Rural Municipalities by County Level, 1995 (in Thousands of Kroon)

County	Tax base	Land tax			Effective rate (%)
		Total	Municipal tax	Agricultural tax	
Harju	844,238.7	5,522.6	2,131.0	3,391.6	0.654
Hiiu	75,833.5	735.1	537.3	197.9	0.969
Ida-Viru	452,918.1	1,303.3	674.9	628.4	0.288[1]
Järva	1,052,752.1	5,521.4	1,722.9	3,798.5	0.524
Jõgeva	922,286.8	5,816.6	2,033.4	3,783.3	0.631
Lääne	414,590.2	2,901.2	1,445.2	1,456.0	0.700
Lääne-Viru	1,284,092.0	1,423.6	599.5	824.1	0.111[2]
Pärnu	799,418.2	1,326.4	812.1	514.3	0.166[3]
Põlva	556,795.1	3,235.1	1,856.7	1,378.4	0.581
Rapla	717,292.9	4,555.1	2,055.1	2,500.0	0.635
Saare	376,982.7	2,841.1	1,902.1	939.0	0.754
Tartu	1,053,440.3	5,477.4	1,692.6	3,784.8	0.520[4]
Valga	502,441.8	3,444.6	1,864.8	1,579.8	0.686
Viljandi	1,099,363.2	6,614.4	2,917.8	3,696.6	0.602
Võru	523,578.8	3,787.9	2,307.7	1,480.2	0.723
Total	10,676,024.5	54,505.8	24,552.9	29,952.9	0.511

Notes:
1. Nine rural municipalities out of twenty-nine in Ida-Viru have no municipal tax rates; four others had not assigned agricultural rates. Hence, the average effective rate is quite low for this county.
2. One-half of rural municipalities did not assign tax rates.
3. Only four out of sixteen rural municipalities have assigned land tax rates.
4. Two out of eighteen rural municipalities did not assign tax rates.

Under the assumption that land exempt from taxation (for government use, cemeteries, and for conservation) in rural municipalities is sufficiently small in magnitude, our calculations suggest that the land wealth (taxable base) in rural municipalities was more than 10 billion kroon in 1995. With an average effective rate of taxation slightly more than one-half of 1 percent, tax yield for land taxation is likely to be quite small. Indeed the land tax calculated for rural municipalities was equal to only 55 million kroon. Since tax rates are missing for a number of municipalities in our sample, total tax collection and effective rates reported by county level understate the magnitude of both yield and effective rates. Removing counties with missing tax data from the sample and recalculating the overall average effective rate increased the rate from 0.511 percent to 0.610 percent. The loss in the base resulting from this exclusion amounted to 2.5 billion kroon, and a corresponding revenue reduction of 4 million kroon.

Unofficial statistics obtained from the Estonian National Tax Board show total tax collection (from all municipalities, rural, towns, and cities) to be about 104 million kroon in 1995. Recall that although total collection is the product of both the municipal rate and the agricultural land rate applicable to the tax base in all municipalities, with minor exceptions, only the municipal tax rate is applied to the taxable land base in cities and urban settlements. The tax board statistics give information on "planned" receipts and "actual" receipts. Comparing these two figures, it is fair to say that for the most part, the tax board was close to the mark. In a few instances, especially in the case of tax collection in the town of Pärnu, tax receipts were underestimated by a factor exceeding 50 percent. In other counties, taxes from urban areas were overestimated with the largest error (–20 percent) occurring in the county of Harju. Estimated tax collection for rural municipalities also tended to be much higher than actual receipts for all municipalities except Hiiu and Lääne counties.

The distribution of tax collection by type of settlement shows taxes on urban land, excluding Tallinn, were almost 15 million kroon, or 17 percent of total counties' land tax receipts. Tallinn alone contributed 18.5 million kroon, about 120 percent of the taxes raised from all other urban settlements in Estonia. Rural land taxation netted some 71 million kroon, or 82 percent of total tax collections (excluding Tallinn). Of note is the disproportionate contribution of urban land in relatively large Estonian towns in comparison with tax collected from the city of Tallinn. Whether measured on a per hectare or per capita basis, the land tax yield clearly reflects the higher valuation of land in the capital city of Tallinn relative to the other major cities of Estonia (table 4). For example, Tartu, a city noted for its culture and intellectual riches with an urban population roughly equal to one-quarter of the population in the city of Tallinn, has a land tax yield equal to one-tenth of that of Tallinn. On a per capita basis, the land tax was 19 kroon compare to 41 kroon

Table 4
Selected Features of Land Tax In Urban Areas

Major city	Land tax (000's kroon)	Urban land (hectare)	Tax per hectare	Urban population	Tax per capita	Municipal rate (%)
Tallinn	18,505	10,225	1809	442,679	41	1.2
Tartu	1,966	3,167	621	105,844	19	1.2
Narva	887	5,931	149	82,900	11	1.0
Kohtla-Järve	965	2,197	439	72,659	13	1.0
Pärnu	1,814	2,222	816	51,963	34	1.2
Viljandi	362	1,281	283	22,669	15	1.0

Source: Tax revenues from unofficial statistics supplied by the Estonian National Tax Board (September 1996). Tax collection covers the period January 1, 1995 to January 1, 1996. Urban population and urban land from 1995 Regional Statistics of Estonia.

per inhabitant in Tallinn. Narva with a sizable urban population, (18.5 percent of the population of Tallinn) and urban land (50 percent of the land area in Tallinn) has the lowest per capita land tax.

One reason for this low tax yield of land (149 kroon per hectare) may be explained by the economic conditions of Narva following independence. Narva is one of the cities populated by Russians who emigrated to Estonia during the Soviet system, with the majority of the population engaged at the time in Soviet heavy industry. These industries are currently in a "transitional" state with industrial and commercial use of land in Narva lagging far behind developments in other areas, notably in Tallinn. Pärnu, on the other hand, holds promise as a rival to Tallinn. With only 12 percent of Tallinn's population and one-fifth of the urban area, its per capita land tax is equal to 82 percent of per capita taxes in Tallinn; on a per hectare basis, the tax is about 45 percent that in the city of Tallinn. Given the density of population as well as the concentration of government offices and commercial establishment in the city of Tallinn there is clearly a role for the land tax to play in the development of land use beyond Tallinn.

How well does our estimate of the land tax fare in comparison with actual collection? Because our estimated tax yield was calculated for tax bases in rural municipalities rather than all municipalities in Estonia, comparative statistics are shown by counties for rural municipalities only (table 5). Our calculation clearly underestimated tax collection for the county of Harju (37 percent), Saare (20 percent) and Lääne (20 percent) and overestimated collection for Jõgeva county (15 percent). These errors are in the same ball park as those reported for the tax board. In our estimates, sources of errors may be attributed to three factors: use of "average" assessed price for land to arrive at the tax base, missing data on tax rates for several municipalities, which reduced tax collection for many counties, and possibly errors in the data. With these qualifications, our tax data are instructive in that they break down tax collection according to land use (agriculture v. others) and provide information on relative tax burden, measured by average effective rates.

Table 5
Comparisons Between Estimated and Actual Land Tax Revenues for Rural Municipalities, 1995 (in Thousands of Kroon)

County	Actual	Estimated	Percent difference
Harju	7,584	5,523	–37
Hiiu	871	735	–18
Järva	6,376	5,521	–15
Jõgeva	5,047	5,816	+15
Lääne	3,494	2,901	–20
Põlva	3,490	3,235	–5
Rapla	5,397	4,555	–18
Saare	3,660	2,837	–29
Tartu	5,907	5,477	–7
Valga	3,515	3,444	–2
Viljandi	6,395	6,614	+3
Võru	3,757	3,787	0

Notes: Estimates are by the author (from table 3). Actual are from the Estonian National Tax Board.

The Land Tax as a Revenue Source for Local Governments

In 1994, local government revenue was about 2.4 billion kroon. This total is derived from two sources: allocation from the state budget (28.5 percent) and revenue raised from "own" sources. Revenues from own sources consist mainly of tax collections from the national personal income tax, which in 1994 accounted for over 1 billion kroon or 82 percent of own revenues. In contrast, the land tax raised only 94.2 million kroon in 1994, or 6.5 percent of own revenues (table 6).

A year later, the significance of the land tax as a source of local revenue is still quite small (104 million kroon in 1995), especially when compared with tax collections under the personal income tax (1.9 billion kroon in 1995). In terms of annual growth rates, the land tax lags far behind the growth of the personal income tax. Between 1994 and 1995, personal income tax revenues increased by over 50 percent while land tax collection grew by 11 percent. On the basis of the distribution of local tax receipts by county, Harju County, including Tallinn, has the highest tax share

Table 6
Local Budget Revenues by Source (1995, 1994: in Thousands of Kroon)

Item	1995	1994	Rate of growth (%)
Total revenues	3,438,553	2,442,463	40.7
Taxes:			
Personal income	1,871,336	1,197,802	56.2
State tax	1,674	13,203	(a)
Fines	26,854	14,199	(a)
Land tax	104,323	94,252	10.7
Contribution from natural resources	10,532	6,458	63.0
Revenues from municipal properties	96,836	44,252	18.0
Other income	124,198	86,691	43.3
Total income from other sources	2,235,752	1,456,755	53.4
Subsidies from state budget	755,198	682,611	10.6
Residual revenues to cover expenses	107,464	174,661	(a)
Transfers from other local budgets	69,834	39,546	76.6
Loans	270,305	39,619	582.0

Notes: (a): negative.

Source: Statistical Office of Estonia (Tallinn).

of the personal income tax and the land tax. Excluding Tallinn, Ida-Viru's share of personal income tax collection was highest in 1995 (21 percent), but ranked fourth (8.6 percent) following Pärnu, Harju, and Tartu (table 6).

To put county comparisons in the proper perspective and to evaluate the potential of the land tax to meet local need, ratios of tax capacity to need were calculated (table 7). Tax capacity per capita is defined as tax collection from own sources per capita; local need is equal to the difference between per capita local expenditure and local income from own sources per capita. Under current arrangements, the shortfall, or local need, is met by intergovernmental grants. With increased demand by local governments for equalization payments from the state budget, budgetmakers at the state level may want to link such payments to tax efforts, in order to maintain an average level of public service. The data in the table clearly show a wide disparity in fiscal need across counties as well as in the ability of these counties to meet such need. When urban fiscal need is compared to tax capacity, it is evident that attention has to be paid to tax efforts in these counties with a ratio close to or over one. Of note is the fact that economic activities in almost all counties with high ratios are dominated by agriculture and have a very small urban base. However, southern counties like Võru and Valga, once known for the richness of their agricultural base, perhaps should work harder at expanding their tax bases to close some of the gap between fiscal need and tax capacity.

Efficiency of the Agricultural Land Tax

The taxation of land is almost universal, although the method may vary from country to country. In the United States, land is taxed in conjunction with taxation of real property. The property tax, which taxes both land and improvements on land, usually at the same rate, is a dedicated tax source for local govern-

Table 7
Per Capita Capacity in Relation to Need, 1994 (Amount in Kroon)

County	Fiscal capacity	Tax capacity	Local expenditure	Fiscal need	Ratio*
Tallinn	1325.8	1242.2	1458.4	132.6	0.11
Harju[1]	982.6	884.0	1310.4	327.4	0.37
Hiiu	583.9	724.7	1498.1	914.2	1.26
Ida-Viru	836.7	755.6	1394.1	557.4	0.74
Jõgeva	661.1	547.6	1247.7	586.6	1.07
Järva	858.1	712.0	1402.1	544.0	0.76
Lääne	864.9	684.1	1432.4	567.5	0.83
Lääne-Viru	803.7	713.0	1434.4	630.7	0.88
Põlva	722.8	592.7	1330.5	607.7	1.03
Pärnu	847.7	730.9	1564.3	716.6	0.98
Rapla	828.1	726.8	1472.1	644.0	0.89
Saare	698.1	653.7	1249.5	551.4	0.84
Tartu	753.5	698.9	1006.6	253.1	0.36
Valga	836.3	595.0	1456.4	620.1	1.04
Viljandi	867.4	656.8	1402.3	534.9	0.81
Võru	598.1	473.6	1318.7	720.6	1.52

Notes:
Fiscal capacity is defined as local income from own sources. Fiscal need is the difference between expenditure and fiscal capacity.
[1] data for Harju county do not include Tallinn.
* Ratio is column 5/column 3)fiscal need/tax capacity) .

Source: 1994 Regional Statistics of Estonia, Tallinn 1995.

ments, with the rate structure set by local governmental units. In Australia and New Zealand, a split tax rate is used—one rate for land and another for structure. (In the United States, Pittsburgh has had a split tax rate since 1913. Other cities in Pennsylvania have recently adopted the split rate.)

Other countries tax land as a separate asset (excluding value of structures), with the tax base defined as the annualized net payments for land use or the rental value of the asset (Youngman and Malme 1994).

In the theoretical literature, the land tax is favored on grounds of tax efficiency. In 1879, Henry George proposed a 100 percent tax on land rent for precisely this reason (George 1879). George's tax, labeled the "single tax," would generate enough revenue to support government functions without the need for further taxation. This postulate, more than any other feature of the single tax, was perhaps responsible for its dismissal. (The single tax was also criticized on the ground that 100 percent taxation on net return to owners of land amounts to confiscation because it reduces the value of land to zero. A partial land tax with a rate below 100 percent would achieve the desired objective of the single tax.)

The efficiency of the land tax as expounded by George was that the land tax would eliminate the need for taxes on improvements on land; hence it would stimulate investment in structures and other productive land use. A land tax capitalized in the value of land would not reduce its supply, because the supply of land is fixed. Moreover, since the tax is levied on land, whether developed or vacant, the tax will optimize the use of land.

The efficiency of land taxation, especially on agricultural land, has been questioned by Bird (1974), Hoff (1991), and Skinner (1991), among others. Although acknowledging that the efficiency of the land tax is "not in doubt" on theoretical grounds, some of the authors find drawbacks in its implementation. The evidence frequently cited supporting this claim is the erosion over time of land taxes as a revenue source in many developing countries. Although agricultural land taxation in 1940 accounted for 23 percent of central government revenue in Egypt, 19 percent in India, and 5 percent in Chile (Bird 1974), by 1987 few countries in this group relied on land taxation for more than 3 percent of their revenue (Strasma et al. 1987). The drawbacks of the land tax according to Skinner (1991) and Hoff (1991) arise from three sources: the capitalization effect of the tax, uncertainty about returns to land, and costly information requirements for administering the tax. Skinner and Hoff focus exclusively on taxation of agricultural land. If valid, their critique would be of value not only for developing countries but also for economies in transition seeking to restructure their tax systems.

Many former Soviet republics, like the Estonian Republic, have a significant agricultural sector in their economies. According to Skinner's analysis (1991), the imposition of a land tax in lieu of an export tax on agricultural products may increase the uncertainty of land returns for those farmers who already own the land. Using an intertemporal utility function, Skinner investigated the magnitude of this uncertainty under alternative tax regimes—the land tax and an export tax. His measure of efficiency gain or loss for substituting a land tax for the export tax is captured by the compensating variation (difference between revenue raised under the land tax versus the revenue raised under the export tax) with farmers' utility held constant. Skinner's finding, however, is not adverse to the land tax. His model results suggest that the efficiency of a land tax depends on the level of uncertainty in production as well as the level of the export tax. A 10 percent export tax is beneficial to farmers who face uncertainty, but at higher export tax rates, the land tax is more efficient, even for a large degree of uncertainty.

The second factor, the information requirements, is valid, although it may not always be appreciated by policymakers in economies in transition. The experience of Estonia in valuing land clearly documents the need for collecting information on soil quality and other land attributes as well as land rent to provide assessors a basis for calculating land value for tax purposes (International Monetary Fund 1992). The information cost for a small country like Estonia pales in comparison to that which would be incurred by much larger republics. Since the efficiency of the land tax as a revenue raiser hinges on the marginal cost of a unit of tax raised (that is, the cost per dollar, per kroon and so on), high administrative cost not only may reduce tax collection but also lead to its eventual demise as a revenue source. For the third drawback, the capitalization effect, Skinner's results suggest that the effect is the same under both an export tax and a land tax.

Hoff's study (1991) focuses on the uncertainty element associated with the land tax by contrasting the efficiency of a mix of output and land taxes to that of a single tax on land. Using the second-best theorem framework, the author demonstrates that some use of output taxes will be "Pareto superior" to a pure land tax regime if institutions for sharing production risks in developing countries do not exist or the insurance markets in the agricultural sector are imperfect.

Conclusion

The Republic of Estonia is in the midst of building an economy which was formerly highly dependent on central direction from Moscow. In severing its budget from the all-Union budget, tax and budgeting reforms became an integral part of the process. The path followed by Estonia is similar to that prescribed by the World Bank for many former Soviet republics. Guided by "western" principles of taxation, Estonia's tax system was designed to achieve efficiency in resource use as well as meeting national and local budgetary needs.

The land tax is but one among several revenue sources collected from people and enterprises in Estonia. Although the land tax was a state tax with shared revenues between the state and local governments, it was quickly designated as a local tax with its proceeds dedicated for local budgets. This is clearly in line with the practice followed by many countries. Estonia also recognizes the efficiency of taxing land only, versus the taxation of land and improvements on land, even though the latter was used in pre-Soviet Estonia. At present however, the land tax lacks importance as a raiser of revenue for local governments, because it accounts for only 7 percent of their local revenues.

Several conclusions can be drawn from this study. First, the efficiency of a single tax on land (less than 100 percent of land rent) is still valid, although the implementation of the tax regime needs to be carefully considered. Second, because land taxation is but one source of revenue available for governments, if it is to be a viable tax source, serious attempts should be made to enhance the efficiency of financial and insurance markets, especially in rural areas. Third, land valuation should reflect two elements, the value of present attributes and the value of these attributes in the future. A parcel of land today valued at the best use of these attributes at present may fall short of the value of these attributes in the future. Last, and perhaps most important for economies in transition, valuation and taxation of land should be viewed in the context of a "learning curve." Initially, both valuation and taxation may fall short of their correct magnitudes. With the progress of the economy in general and land markets in particular, land taxation should be strengthened through annual valuation to enhance the tax capacity of municipal governments and the optimal development of land use over time.

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On the Lighter Side

From a transmittal slip to the borough attorney:

Subject: End of year policies, third draft
Please note: This must be getting close to your standards—it is so complicated, I can't understand it myself.

Courtesy of Dennis Finegan, Assessor, Borough of Ketchikan, Ketchikan, Alaska