

Land Value Taxation in South Korea

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Abstract

This case study will describe and discuss Korea's most representative land value tax, called Aggregate Land Tax (ALT) adopted in 1990 as an important measure of property tax reform. The measure was introduced with two stated goals: stabilizing real estate prices at a time of rapid land price inflation, and ameliorating the land ownership distribution. The ALT is a local tax in the sense that the proceeds belong to the local government, but the tax base and rate schedule are uniform across the country, with progressive tax rate schedules applied on the total value of individual owner's landholdings aggregated on a national basis. The essential features of the ALT will be reviewed and the lessons gained from the 10 years of experience discussed by identifying some critical issues on equity, efficiency and administration.

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Introduction

The Aggregate Land Tax (herein “ALT”) is one of the most important taxes in Korea. It is quite a unique version of land value tax in line with Henry George’s idea: public services ought to be financed *more* by the value it creates—the economic rent of land, even if it does not come close to the degree of *entirely* by the single land tax.

The tax was introduced into the local tax system as a part of the land policy reform of 1990 to emphasize the landowners’ responsibility in putting their private land into socially desirable uses, called “*Toji-Gong-Kae-Nyum*,” which is translated as ‘the public concept of (private) land.’ Before the ALT, the recurrent land tax existed in the form of a ‘land-component’ levy of the Property Tax, which simply taxed each single unit of land at a single flat rate without aggregating all the lands owned by each taxpayer. The newly enacted tax, however, expands the scope of the tax base by aggregating all the lands owned by each taxpayer on a national basis.

While there have been very few major reforms on the property taxation scene in the United States¹ and other developed countries, Korea has experimented with various forms of fairly drastic property tax reforms during the last four decades. The 1990 land tax reform package which introduced the ALT, together with the inauguration of other new central government’s land taxes and charges, and the national land valuation system called the Official Land Value System², is a case in point.

A. Historical Perspective

To better understand the background history of the inception of ALT, Korea’s land problems and its policy responses need to be looked into. Korea has experienced at least three major land price movement cycles since 1960’s when economic development started the industrialization and urbanization process. The first land price inflation period of 1964 to 1970 saw more than a 50% rate change per annum. Although the inflation rates for the second (1975-1980) and third (1987-1990) land price inflation periods were not as high as that of the first period, the two periods witnessed on average a 27.4% and 22.3% of annual appreciation, respectively. While those high land prices truly reflect the extreme scarcity of a non-renewable resource due to the rapid economic development, they should not necessarily have been targeted as a policy objective.

But, the excessively high and escalating land prices had raised serious concerns about the long-term stability of the economy, and their negative impacts of failing to provide a sufficient amount of urban lands for infrastructure, manufacturing, and housing needs. Furthermore, coupled with the initial concentration of land ownership among the wealthy class, it could worsen the subsequent income and wealth distribution as a whole.

Figure 1 shows the side-by-side comparison of the land price movements and the landholdings tax revenue changes from 1975, the year when the official land price survey started. What we observe from the trend of the two-time series is either that there is a negative relationship between the movements of the rate of changes in the two variables, or that the change in the land price inflation is accompanied by a change in the landholdings tax revenue with a one year time lag. As a consequence of the persistent land price inflation, speculation activities had been prevalent throughout the country. The speculation was an easy target for the policy makers to blame for the land price inflation and all the sufferings from it. However, it is very hard to define ‘speculation’ clearly enough to build functional policy measures against it.

Economists and policy makers in Korea have long been interested in employing tax policies in order to solve these problems. Indeed, many administrations have relied on the change of various real estate taxes as a tool for fiscal stimulus or deterrent in the real estate market. In 1990, the ALT was adopted in an effort to stabilize the speculation-driven land price inflation and to lessen the degree of land ownership concentration. The ALT is imposed at the progressive rate upon the total value of all the nation-wide landholdings by a given taxpayer. The ALT is administered by the national government and the same tax rates are used in all the local taxing jurisdictions. Unlike many other countries, taxes levied annually on property include a land tax (ALT) and a building tax (Property Tax on Buildings).

B. Scope and Terminology

There are various national and local taxes levied on immovable property in Korea. As in most other countries, land taxes by the central government take the form of personal or corporate income tax imposed on the rental income from the property and the realized capital gains at sale. But, Korea had a very peculiar national tax on landholdings called the ‘Excessively-Increased Value of Land Tax (EIVL tax), to recapture the windfall gains of idle and under-utilized lands on an accrual base³. After the Constitution Court’s verdict of the tax’s ‘non-conformity-to-Constitution’ in 1995, it was abolished just before the economic crisis of Korea in 1997. Other national taxes on land of a non-recurrent nature are Gift Tax and Inheritance Tax involved at transfer of titles.

‘Land value taxation⁴’ can be defined as: 1) a tax on land value, 2) a tax on land value disproportionate to the tax on improvements, 3) a confiscatory tax on land value, and 4) the Henry George “single tax.” In this study, the first and second definitions will be adopted to describe the ‘land component-levy’ of property tax until 1989, and its successor, the ALT, with more emphasis on the latter.

There are other taxes on property like the Acquisition Tax and Registration Tax which will not be covered in this paper. They are non-recurrent local taxes that the higher-level local government like metropolitan cities and regional provinces impose for the transfer of ownership on the value of transaction at a tax rate of 2% and 3%, respectively. Even if the acquisition and registration taxes are levied on the occasion of land purchase, and these turnover taxes are assessed on the bases of actual transaction prices reported, there are no systematic linkage between the taxable land values in the Acquisition/Registration

tax and the subsequent ALT. That is, the first imposition of the ALT after the purchase will not be calculated on the basis of the property's acquisition value. However, there exists a similarity between Korea's heavy land turnover taxes with light landholdings tax and California's Property tax burden skewed more heavily toward more frequent transactors under Proposition 13.

Korea has never adopted conventional property taxation involving the simultaneous taxation of both land and buildings upon it at the same rate structure. Even though the name of the tax has long remained the 'property tax,' the land and building have always been assessed separately by different valuation methods and subjected to different tax rate schedules. They were called the 'levy on land component' and 'levy on buildings component' of the local property tax and billed separately twice a year. Land values used to be estimated by the comparable sale method, and the buildings valued by the reproduction cost method, that is the current cost of constructing an identical structure or replica. This tradition of differentiating between land and building in property taxation has its origin not from the Henry Georgian spirit⁵, but from practical purposes: It was easier to follow a specific appraisal method appropriate to each component rather than to develop a valuation method for the property as a whole, and lessen the taxpayer's cash-flow problems by two install payments.

This paper reviews the essential features of Korea's most representative land value tax, the Aggregate Land Tax, and discusses the lessons from the 10 years experiences by identifying some critical issues on equity, efficiency, and administration grounds.

II. Overview of ALT

A. Revenue of Property Taxes

Taxes on real property, especially those imposed recurrently in the holding stage of immovable property such as the property tax, constitute an important revenue source for local governments and exist mainly in the form of local tax in most countries. Following the OECD tax classification criterion, we can compare the dependency on this type of property taxes in each country. Tables 1 and 2 show some wide variances of property tax revenue shares even among the developed countries. While the tax on capital gains realized on the property is normally not counted in the category of the 4000 property taxes, the proportion of taxes imposed on property in total tax revenues becomes quite pronounced in Korea. However, this is primarily due to transaction taxes since effective taxes on holding real estate are low. They are estimated to be around 0.1 to 0.15 % of the market price for both land and buildings reflecting the fact that land and buildings are assessed for tax purposes at around one fifth to one third of the true market price.

B. Characterizations of ALT

1) Land Value Tax in the form of Wealth Tax

Korea's ALT can best be described as a particular form of wealth tax, with its wealth defined only in terms of land asset holdings. It is levied annually on the individual landholding value across the whole country, and the type of asset subject to taxation is confined only to land asset⁶. It is defined as an *ad valorem*—according to the value—tax rather than a unit tax, and is a personal tax, as opposed to *in rem*—against an object—tax. While land is the object of taxation in ALT, tax is levied on each landowner's landholding value and the taxation unit is either an individual or an equivalent legal entity like corporation. Valuation becomes very important in terms of the administration and compliance cost. It is reassessed annually upon the capital market value of a land, or upon proxies for capital value such as presumed or actual rental income.

2) Uniform Local Tax with Shared Administration burden

Following the usual tradition of the developing countries' property taxation system, ALT is a standardized national system with a uniform tax base, rates, exemptions, and the general administrative structures with its administration burden shared both by the central and local governments. It is as if the 245 local governments—small cities and counties in nine regional provinces, and boroughs/districts of six metropolitan cities—have the same local tax structures in contrast to the more than 75,000 jurisdictions and property tax systems in the United States⁷. Therefore, property taxes in Korea, including the ALT, are not exactly local taxes but centrally designed local taxes with their proceeds going to the local vaults. Under this scheme, local governments in Korea have no choice but to accept the central government's local tax law and to apply it uniformly.

The characteristics of uniformity in the ALT also originate from the very nature of aggregation in land value over the landholdings across the country. In order for the aggregation to be meaningful in any way, homogeneous administrative rules were applied to every aspect of land value assessment and tax computation. Valuation methods and administration standards are established at the central government level and the local government carries out the routine job of maintaining tax roll and sending out tax notice in their jurisdiction under national guidelines.

With the land price valuation data provided by the Ministry of Construction and Transportation which developed the CAMA (Computer-Assisted-Mass-Appraisal) system⁸, the local tax officials maintain the land cadastre and tax roll of the ALT by regularly collecting other sources of information, like the Ministry of Justice's Title Registry. For the smooth functioning of the ALT, several ministries of the central government and local governments at hand have to work very closely together, and the whole process of ALT administration needs to be a coordinated effort.

3) Graded Property Tax and Differential Tax according to the Usage

Even before the introduction of the ALT, the property tax system in Korea had been a graded one. The land and buildings were separately assessed by different methods under

the same title, Property Tax. But there were no specific objectives in that separate taxation to encourage more intensive land use. The basic tax rate for both land and buildings was the flat rate of 0.3%, and the residential buildings were subject to the progressive tax rates of 0.3 to 7%. With the introduction of the ALT, a policy shift towards heavier land taxation by the method of personal aggregation and progressive tax rates was an intentional one. Because there are three types of land classification and tax rate schedules to be applied depending on land usage, the ALT is definitely designed to be a non-neutral differential land tax.

4) Policy-Oriented Tax : Instruments for Central Government's Objectives

When the ALT was conceived, the following objectives were explicitly or implicitly enumerated by the policy makers as the goals of the ALT: promoting a more intensive use of land, encouraging a more productive utilization of scarce resources, lessening the inequities of land ownership and income redistribution, and decreasing land speculation. But the initial tax rates were set much too low to elicit these desirable behaviors. And political sensitivities, particularly in regard to the cash flow constraints of many middle-class property owners, appeared to preclude ever raising these rates to a level where they might significantly alter major investments and consumption decisions. Also, the ALT was viewed as complementing the capital gains tax on land. Due to an absence of a mechanism to ensure the proper reporting of market transactions to the tax authorities, taxation on capital gains from land relied on a presumptive basis, and hence the effective tax rate became quite low.

C. Structures of ALT

1) Unit of Taxation

Who should pay the ALT? The person who actually owns the taxable land as of the base date of assessment (June 1 of each year) is subject to the ALT on the standard value of the land determined by the local tax authorities, and the payment should be made between October 16 and October 31. But in the case of uncertainty about the de facto taxpayer, the following persons shall be regarded as the substantial taxpayers: (a) the registered owner on the land tax roll, (b) the primary successor when inheritance is not registered, (c) the purchaser who signed a sales contract to obtain the right to use the taxable land free of charge by yearly installments, (d) the user of the land in case of uncertainty in title holder.

2) Type of Taxable Lands and Tax Rates

The usage of land usually determines the aggregation method and the tax rate schedule to be applied. Each taxpayer's land holdings are broken down into three different categories of taxable land, and are subject to each category's own tax rate schedules: (1) the first rate schedule is a higher progressive rates of 0.2 to 5%. This schedule is called the "General-Combined Taxation Category Rate," and applied to speculative land⁹ as well as residential land (see Table 3) (2) The second progressive rates range from 0.3 to 2%. It is called the "Special-Combined Taxation category Rate," to be applied upon commercial

building sites (See Table 4) (3) The last are a set of separate flat tax rates applied to specific types of land excluded from the aggregation. Farm and forest lands get preferential tax treatment of 0.1%, while luxury properties like golf course and villas are subject to the heavy 5% rate (See Table 5).

3) Tax Exemption and Reduction

Lands for non-profit use, roads, lands for public interest, lands owned by government, and lands for public utilities are tax exempted. Lands of education institutes owned by corporations, lands inside local industrial zones, lands of nursing homes, lands of institutes for business establishment, lands inside distribution industry zones, and lands of job training institutes are eligible for tax reduction.

4) Assessment of ALT

The annual assessment of ALT involves basically the following three steps. First, local governments assess the taxable value of each parcel of land in their jurisdiction. Secondly, the Ministry of Government Administration and Home Affairs (MOGAHA) determines the nation-wide taxable land value and total ALT tax amount by summing up each landowner's landholdings over all local jurisdictions and applying the appropriate tax rate schedules. Lastly, local governments collect their share of taxes according to their local assessment proportion.

Since the ALT is an *ad valorem* land tax on the aggregate value of total landholdings across the country, building a computerized nationwide land information system by land ownership is crucial to administering the tax. Each local government at the level of *Si-Gun-Gu* (equivalent of city-county-borough) maintains the ALT tax roll on the basis of geographical information data together with ownership and land value data for all the parcels located in their local jurisdiction. These basic local data collected and edited are arranged in a standardized layout format and then sent through the provincial government to the Ministry of Government Administration and Home Affairs (MOGAHA), the central government ministry in charge of administering the ALT at the national level. A department of the Local Tax Division in the MOGAHA together with the Computing Facilities Division in the ministry handles all the data input and programming jobs. After five years of preparation, the Ministry of Home Affairs currently runs a computerized land ownership record system and determines the amount of tax for each individual. The amount of tax owed is then divided in proportion to land values among localities in which the owner holds land, and each local government is responsible for collecting its share.

The ALT is not a typical local tax due to its process of where the tax liabilities are determined. When an individual owns several lots of land throughout the country, the tax base of the ALT is the aggregated value the local assessments. An individual's total tax liability is determined on the basis of this aggregated taxable land values, but the tax notice sent out by each local government represent only their jurisdiction's portion of landholdings. That is, the total ALT amount is disaggregated into each local government's share on the basis of the local proportion to the aggregated total land value

5) Land Valuation: a CAMA method

The lower-level municipal governments are required to reassess the unit value of each land parcel in their jurisdiction each year for the purpose of administering the ALT¹⁰. Until 1995, the same lands were valued differently by the local and national government in the assessment of their own land taxes. Since the ‘land portion levy of property tax’ until 1989 and its successor the ALT from 1990 have been local taxes, the local authorities determined their taxable land value on the basis of their unit land price. It was called the Current Standard Value for Taxation (herein “CSTV”), and recorded on the cadastre (*Ji-Juk*) and the land tax roll maintained by the local government.

Another land value assessment¹¹, called the Publicly Declared Land Value (herein “PDLV”) or Official Value of Land Parcels, was introduced in 1990 as an important component of tax reform in the field of valuation. Originally it was intended to have its application starting in the national tax administration¹², but was expanded into the local tax assessment. First, the PDLV was announced to give guidelines in the local assessment of land value, i.e. CSTV. Valuation records are available for public inspection. Starting in 1996, the Local Tax Act was amended to prohibit the local governments from maintaining their own land valuation system and to just apply a certain percentage of the PDLV as their taxable land value. That is, mayors and county executives are required to announce their jurisdiction’s percentage figure that they deem appropriate for the assessment of taxable value after consulting with the local councilors.

Therefore, the assessment ratio represent the ratio of CSTV to PDLV, i.e. the relative degree of local land assessment compared to estimated transaction price and should not be confused with Assessment—Sales Price Ratio.

The first round of officially announcing values for all land parcels occurred during the summer of 1990, and the land-related national taxes like capital gains tax and the three new *To-Ji-Gong-Kae-Nyum* measures came to be imposed upon this tax base from then on. The government, however, failed to adopt the PDLV as the new assessment system of the local land-related taxes like the ALT. Even if the national average of assessment ratio for the ALT hovered around 31.6% in 1996, the initial low levels of 15% ratio with the introduction of the ALT made policy makers concerned about the effectiveness of the tax in spite of its progressive rate structure.

After 2 years of the ALT experiences (1990-91), the low assessment ratio made the tax insignificant to landowners and rendered land taxation ineffective in achieving any policy goal. So, the following improvement plans were adopted as a part of the ‘New 5 year economic plan.’ First, the assessment ratio will be increased annually to attain the level of 30% or higher by 1995. Second, the tax base of the ALT will be converted from the CSTV to 100% level of the OVIP. Third, the rate schedule will be adjusted to result in the doubling of the effective tax burden from that of 1993. But this plan was not carried out until the end of the deadline year 1995, and some compromised solutions for ALT changes emerged after the hot debate in the policy-making circles.

At the end of 1995, the Local Tax Act was revised at the initiative of the MOGAHA: the taxable value of the land in the local jurisdiction would be assessed to some specified

fraction of the OVIP to be determined within a 10%¹³ flexible range by its local government. However, it was announced that there would be no further appraisal function to be performed on the part of the local government by publishing out the CSTV since the local assessment became linked to some fraction of the OVIP. So the original improvement plan on the ALT to raise the CSTV gradually to the full OVIP level, coupled with a rate schedule change, finally came down to a possible widening of the assessment ratio under the same nationwide aggregation rule and rate schedule.

6) Data Handling of ALT

A progressive tax upon the taxpayer's nation-wide aggregate landholding value is only feasible through a massive data handling computerized system. Information regarding land, including parcel numbers, size, use, ownership and taxable value should flow from the lower-level government to the central government. From Korea's comprehensive data collection mechanism and computer capacity to implement such a system, we obtained about 15 thousand stratified random samples of 1993 ALT taxpayers from a population of 8.7 million individual landowners to do an empirical analysis on this new tax.

III. Some Issues on ALT

A. Tax Burden of ALT

Table 6 shows the 1993 ALT burden of individual taxpayers based on a sample of 15,722 individual taxpayers. The effective rate of the ALT ranges from 0.05% to 0.29%. Even when surtaxes like the City Planning Tax and Education Tax¹⁴ are added to the main ALT, the total effective rate of land holdings tax burden does not exceed 0.4%. Out of the 7.9 million landowners subjected to the ALT in 1993, 80% of them belonged to the lowest tax base bracket of less than 20 million Won, and their effective ALT rate and total land holding tax burden were 0.05% and 0.09%, respectively. Even the large landowners who belong to the top brackets of the ALT group were paying only 0.38% of the aggregate land values.

Even though the pre-ALT landholdings tax burden figures are not available to compare with these effective ALT rates, calculated using the individual micro data, we do have some aggregate-level information on the landholdings tax burden in 1989, the year before the ALT was introduced. The ratio of landholdings tax revenue to total land value in 1989 is 0.023%, and the equivalent ratio in 1993 is 0.082%.

B. Effects on Land Ownership Distribution

Table 7 reports the change of land ownership distribution across landowners before and after the ALT introduction. Since our result is based on a weighted sample of 15,722 individual ALT taxpayers out of the 8.7 million taxpayer population while the previous study is based on all the landholdings including tax-exempt lands, we cannot compare both results on an equal footing. Also, the previous result is based on the distribution of individual land area owned while our result is based on the distribution of land value. But

the fact that the top 5% of landowners subject to the ALT held almost 71% of the total taxable land indicates the seriousness of the land ownership concentration problem.

Since one of the main objectives of introducing the ALT in 1990 was to popularize the land ownership distribution, we compared the individual ALT taxpayer's land ownership concentration between 1993 and 1996. Gini-coefficient which estimated the area between 45 degree line and the Lorenz curve increased from 0.6544 in 1993 to 0.6708 in 1996, which can be interpreted as showing no improvement in land ownership concentration during the period¹⁵.

C. Test of Assessment Uniformity in the ALT

How the land holding tax burden differs in Korea compared to most other countries where the local government has some power of rate setting was investigated. If the landholdings tax in Korea has a flat rate structure¹⁶, as in the case of local property taxes in the U.S., the difference in the land holdings tax burden for two specific parcels would result from differences in tax rates and assessment ratios. And the total tax burden of a landowner would depend simply on the summation of two separate multiplicative effects in each jurisdiction: that is, tax rate times the assessment ratio.

However, under the current nation-wide aggregated land holdings taxation of the ALT where the progressive tax rate schedule is set by the national level legislature, the ALT burden for an individual landowner holding lands of a certain value depends not only on the assessment ratios but also on the progressiveness of the rate structure.

Suppose two landowners, A and B, have the same land holdings in terms of market value but in local jurisdictions 1 and 2, respectively, with the assessment level higher in 1¹⁷. The landowner A will bear a heavier ALT burden than B. Also, of his total land holdings, the more land portion the landowner A has in jurisdiction 1, the heavier his total ALT burden will be in comparison with the landowner B, even if their total land holdings have the same market value. When the assessment variations were surveyed at the province level, regional variation of assessment ratios was very large. For example, in 1993, Jeonbuk province had the lowest average assessment ratio of 11.5% while Jeju province attained the highest average level of 29.7%.

Table 8 and Table 9 show whether ALT taxpayers belonging to the same tax base bracket have the same assessment ratio in both General-combined and Special-combined categories. The data came from the 1993 ALT tax roll on 8.4 million individual landowners. We drew a stratified random sample of 15,652 individual taxpayers with each stratum defined by taxable land values and the owners birth year. Since we obtained the raw data on 150,035 land parcels owned by the sample owners, we carried out the data editing process on missing and outlier observations to get the final data set of 141,169 land parcels owned by 15,272 sample owners.

According to Table 8, there are 3,767 individual landowners subject to the General-Combined category ALT and belonging to the lowest tax base bracket (less than 20 million Won). Even if the statutory tax rate to be applied to the taxable value of their

General-combined categorized land holdings is 0.2%, the average assessment ratios of individual owners and the effective tax rates in the group are 24.67% and 0.49%, respectively¹⁸.

First, we tested the (null) hypothesis that individual taxpayers assessment ratios are all equal without regard to the taxable value group ($H_0: \mu_i = \mu, i = 1, 2, \dots, 8$). According to Analysis of Variance(ANOVA), we obtained the F-value=2.97 since the variations between groups from overall variations are larger than the variations within groups. Therefore, we conclude that the assessment ratios are not equal with the significance level of 0.25%. When the same analysis is carried out on the median ratio for level of assessment, the results may be different.

Second, especially the Students t-values for the lowest four taxable value brackets, i. e. under 20 million, between 20 and 50 million, between 50 and 100 million, and between 100 and 300 million groups, show that the variations within the groups were large enough to reject the hypothesis of equal assessment ratio within groups with 5% significance level while the group averages of 24.67%, 21.58%, 22.16%, and 22.11%, respectively, were not much different from the total average of 24.11%. The results were the same for the Special-combined category ALT (See Table 9).

IV. Fiscal aspects of ALT in Local Government

The yield in Korea from the recurrent tax on real property as a percentage of all government revenues is around 4% in 1999 when all surtaxes are included. In Korea, property taxes on land and buildings used to account for only less than 2% of the total government revenues during all of the 1980s. With the '*Toji-Gong-Kae-Nyum*' measures of (land) tax reform put in place in 1990, the ratio continued to rise till it peaked at 4.32% in 1995 and remained at the plateau level of 4%.

But the importance of the ALT as a local revenue source can be verified from the proportion to the local tax amount excluding national taxes. The share of the recurrent taxes on real property including the ALT among the total local tax revenue ranged from 35 to 38% during the latter 1990s. Table 9¹⁹ shows the shares of various local taxes of Korea in 1998. The revenue of the aggregate land tax was about 1,199 billion Won, with 67% coming from individual taxpayers and 33% from corporate taxpayers. Its share constitutes only 7.0% of all the total local tax revenue. But the tax yield is almost 20% of the total lower-level local taxes levied by the municipal governments like cities and counties and autonomous boroughs in metropolitan cities. Thus, the lower-level local governments' dependence on the ALT revenue is quite high.

What is the most striking about the composition of Korean local taxes is the high shares of the transfer taxes, Acquisition and Registration Taxes, making up almost 15 and 20% of the total, respectively. Even if they are provincial taxes in the sense that the proceeds initially go to the provinces and metropolitan cities, some of the yields are transferred to their constituent lower-level local governments in the form of specific grant-in-aid or block-grant programs.

While local dependence on the property-related tax has eased somewhat in recent decades, property taxes, especially the land value tax, will continue to be the prime source of local revenue. Typically, taxes on properties are important revenue sources for local governments in most of the developed countries because of their many merits; they are not supposed to play a policy role at the national level among the countries with a long history of local autonomy. Korea, however, is still in the decentralization process from the central to the local governments that the local property tax system has many characteristics descending from the past history of centralization. First, all the local taxes are uniform and nationally determined rather than constituting many local varieties. It may have the advantage of minimizing economic distortion and simplifying administration, but at the cost of reducing local autonomy. All the important specifics like tax rates and taxable bases of local taxes including ALT are enumerated in the Local Tax Act passed in National Assembly. Each local government, whether it is a provincial or lower local level, can only make some minor adjustments to the prototype model in the making of their own version. Therefore, the ALT, which is a local land tax, was designed with the central government's specific policy objectives: stabilizing the land price inflation, lessening the land ownership distribution, and curbing the speculation-motivated landholding activities. As a result, property taxes like the ALT are relied on to support many social programs that they are incapable of financing local public services under the benefit rule. Grants from the central government are therefore necessary to meet the fiscal needs of jurisdictions with insufficient tax revenues.

While the share of the land-holdings tax among the local tax yield has more than doubled from 3.6% in 1989 to 8.1% in 1995 with the introduction of the ALT, the future revenue potential of the ALT depends upon the pace in which the bracket creeps higher under the progressive rate schedule as the reassessment goes on.

V. Concluding Remarks

Some conclusions and observations can be made from the experiences of the ALT in Korea:

1. Raising the assessed land values for the ALT during a period of stable or decreasing land prices increased the tax yield more than the rate of assessment increase under the progressive rate structure, and brought about strong resistance from the most vocal taxpayer class. The ALT revenue rose three times from 1990 to 1995, when the taxable land value assessments was raised around 2.5 times during the period. Compared to an average 17.5% of annual local tax revenue increase, the ALT's annual yield increase of 24% is very high for the type of local tax with little consideration of taxpayers' income stream. The average 24% yield increase of ALT with the 22.3% tax base increase indicates that the revenue increase comes mainly from the taxable land value reassessments and not from the progressive tax rate features during the period. Actually, the local tax officials could not raise the taxable base of the ALT beyond the level over which the bracket-creep effect takes place. Explaining to the landowners the necessity to bring the previously under-assessed level in line with a certain target level as the reason for the increased tax bill didn't

help much. Also, it became quite obvious to the local tax officials that the continuous increase of the ALT burden faced the strong resistance from the taxpayers because of the involved cash flow difficulties. So, the time-consistency in the assessment level of land holdings tax proved to matter much in the progressive land tax system.

2. Since 1990 when all the policy measures in response to rapidly increasing land prices got implemented, the rate of land price inflation became slowed down and finally became negative from the second quarter of 1992. Because the ALT was introduced as a part of the total policy package, called "*Toji-Gong-Kae-Nyum*" measures, it is hard to say that the strengthening of land holdings tax through ALT alone brought the land price inflation down under control. Unlike the theoretical underpinnings of traditional land tax effect, we don't know much about the capitalization process of this personal land holdings tax. Also, it is questionable whether the increased land holding tax burden caused the rate of increase in land prices to be less than they otherwise would be.
3. Administrative cost involved in administering the ALT comes mainly from the massive data handling requirements required for the annual reassessment. Also, throughout the nation, approximately 30 million taxable objects (pieces of land) are listed on the ALT tax roll, and at least one fourth of them needs to be updated for the changes to their ownership and physical characteristics. Even a simple error in the assessment of a parcel of land in a locality means recalculating the total and local portion of ALT liability for the taxpayer. The annual cost incurred by every level of local government and central government in maintaining the Official Land Value system reached almost 100 million US dollars, while the quality of the resulting OVIP has not been put to test by checking with the actual market transaction data.
4. A progressive rate structure is certainly not a desirable property in terms of neutrality, horizontal equity, and administrative costs, but the large landowners were targeted to increase their tax burden by the introduction of the ALT. Due to some data limitations, we could not prove conclusively that the ALT lessened land ownership concentration. However, by comparing the ALT data of 1993 and 1996, we observed that the land ownership distribution has not changed in a more equitable way even when the increase of the ALT burden was sought aggressively in 1995. Since it is always possible to considerably reduce the ALT burden of a household by diversifying the ownership to other members of a household with no or less landholding, we suspect that this loophole in failing to select the household as the unit of the ALT taxation contributed to the loss of effectiveness in affecting real ownership distribution.
5. The personal property tax system with the progressive rate structure like the ALT is very hard to implement since the tax burden is sensitive to assessment uniformity. Also it should be noted that the feasibility of personal progressive land taxation greatly depends on the way in which the fiscal system is organized.
6. As the concentrated political power devolved after the first local election of mayors, governors, and councilors in 1995, fiscal aspect of local autonomy became important and the ALT came to be recognized as the primary revenue source of local governments. But the land value tax in the current form of ALT has not much room

for local variations. Currently, there are discussions in the policy-making circles about how to change the ALT to make it a genuine local tax while maintaining the social objectives of redistribution and stabilization. Even if the ALT, in its inception, was targeted as a policy tool in solving the central government's land problems, its future direction for improvement will depend basically upon the broad design of intergovernmental relations and its fiscal structures. An ideal but missed opportunity for a major local tax reform to better reflect the future decentralization process was the period before the first ever local Korean elections in 1995. An interim alternative would be to decompose the current ALT into a pure local land value tax with flat tax rate and a central government's policy-oriented national tax with progressive rates. Allowing the local governments to have an easy-to-administer flat rate land value tax will enhance the neutrality and local government's fiscal accountability.

Endnotes

- ¹ California's approval of Proposition 13 in 1978 and Pittsburgh's restructuring of property tax system in 1979 would be counted as major reforms at the sub-national level.
- ² For a detailed description of these taxes and changes, see Ro (1996)
- ³ It was one of the Gongkaenyum legislations. For each three-year taxation cycle, the National Tax Service announces the normal rate of land inflation, which is the greater of the national average land price increase and the interest rate on savings account, and the land value gain above the rate was considered as excessive and the profit was subject to a 50% taxation. But to minimize the double taxation problem, capital gains tax on the actual realized gains of land at hand is reduced by a certain percentage of the EIVL tax amount paid, depending on the length of time between payments of the two taxes.
- ⁴ Youngman, Joan, The Role of Land Taxation in Tax and Land Policy, LILP wp 1993 p. 3
- ⁵ Sometimes land and improvement had been subject to the same basic tax rate of 0.3%—even if separately taxed—other times building especially the residential building has been more heavily taxed in comparison with the land. But the effective tax burden on land compared with building continued to be lower until the 1990 land tax reform.
- ⁶ Many developing countries adopt property tax as a form of wealth tax. “The property tax in developing countries is a wealth tax on fixed assets to help finance local government provision of public facilities and services.” Jay K. Rosengard pp.3
- ⁷ The same goes with other local taxes in Korea. All the local taxes are legislated in the Local Tax Act over the floor of the National Assembly. The Ministry in charge of local taxation at the central government is the Ministry of Government Administration and Home Affairs (MOGAHA), making all the administrative rulings in Korea. Even if taxes are labeled as local taxes, their codes are established by the central government which define the details of tax bases, rate structures, exemptions and reductions, and collection and appeal procedures.

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- ⁸ Official Land Valuation System in Korea is a unified land valuation system based on a CAMA method. Faced with the absence of reliable sales price information both in land registry and local property tax roll, Korea developed a two-tier valuation system for the annual appraisal of almost 30 million parcels of land. First, out of the population land parcels a sample of 450,000 parcels are selected to be designated as ‘Standard Parcels’, and they are appraised by the professional fee appraisers in the private sector. Second, with these Official Values of Standard Parcels serving as benchmark prices of representative parcels, all the individual land parcels are calculated by the local officials using the ‘Comparison Matrix Tables’, which contains the estimated coefficients of factors affecting the unit price of land. Parcel’s size, location, shape, usage, proximity to the amenities and other characteristics are surveyed and the observed difference of these variables from those of the Standard Parcels are measured and multiplied by the estimated coefficients of the ‘Comparison Matrix Table.’
- ⁹ Speculation is commonly defined as withholding land from the use that would bring the highest current returns in order to reap the advantages of a higher sales price or higher annual returns from some other use later. In Korea, however, policy makers and taxing authorities tend to categorize the excess of land holding defined in terms of land use intensity for each use as a speculative land holding.
- ¹⁰ Other local transfer taxes such as Acquisition Tax and Registration Tax, imposed at a flat rate upon the transfer of land ownership and title by higher-level local government like provincial and metropolitan government, also require the valuation of property that changes hands. Actual sales price are hardly reported in full in the transfer tax filing.
- ¹¹ The basis on which the (taxable) land is assessed is the market value of land alone, i. e. unimproved capital value or site value of land. In Korea, it is generally considered to be what the land would be worth in the open market if all other conditions were the same but the improvements did not exist.
- ¹² The bases of national land-related taxes like the Capital Gains Tax, Inheritance Tax, Gift Tax have become unified under the heading of this PDLV since 1990, which is also an important component of land *Gongkaenyum* measures taken. Therefore, the taxable capital gains on land transaction is calculated on the basis of PDLV, usually approaching 70 to 80% of the real transaction price in the market. The application of PDLV can be found in the following area other than taxation: eminent domain compensation, land policy indicator, and benchmark price for market transaction.
- ¹³ The ministry opted to grant some room of taxation autonomy to the local governments through allowing them to vary the fraction of PDLV on which the assessment is made.

¹⁴ In addition to the ALT, there are two other surtaxes included in the tax bill. One is the City Planning Tax, which is levied by cities and counties on lands regulated under the City Planning Law for financing urban planning projects undertaken. The standard rate is 0.2% imposed on the assessed value of land and buildings calculated for the ALT and Property Tax, respectively. However, the maximum rate is 0.3 per cent. The other tax is called the Education Tax, which is imposed together with the ALT in the amount of 20% of ALT.

¹⁵ See Ro (2001), forthcoming paper to be presented at the 57th Congress of the IIPF in Linz, Austria.

¹⁶ We supposed this hypothetical flat rate tax system only for the purpose of examining the importance of assessment levels of individual parcels in the progressive land holdings tax on the aggregated land value, i. e. the ALT of Korea. The major reason why the land values are aggregated for an owner across the country is that progressive rate schedules are to be applied on it.

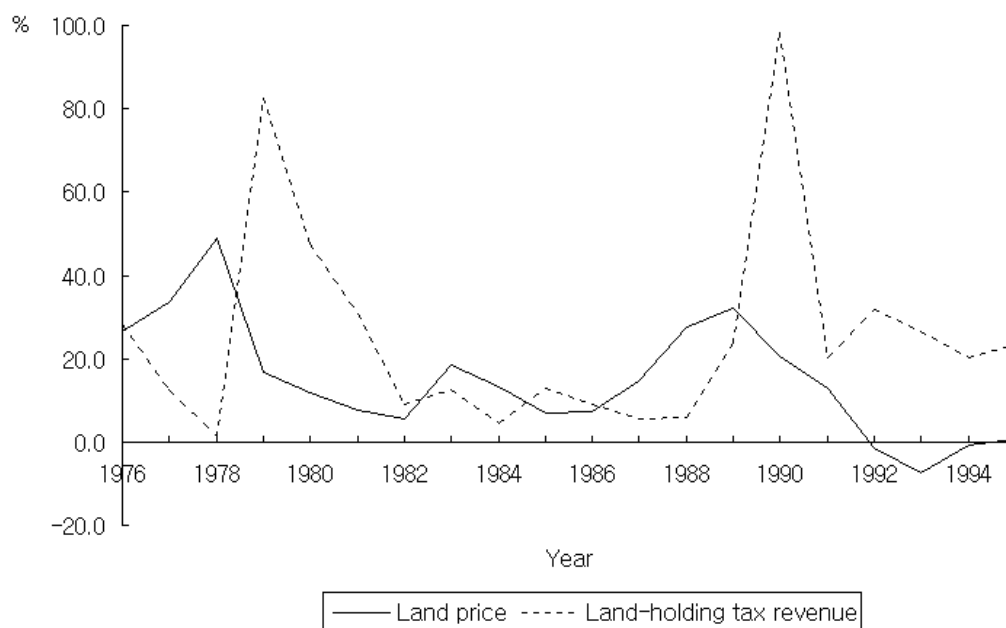
¹⁷ Suppose an individual A living in his house in the City of Cambridge, MA has a summer house in Concord, New Hampshire, and several bare lands in a small city of Amsterdam, New York. Another individual B owns only a house in Cambridge. If the ALT were in place in the United States, landowner A will be taxed on the total value of his landholdings in Cambridge, Concord, and Amsterdam, under the progressive tax rate schedules. Total ALT liability is broken down into each city/county's local ALTs according to its shares from the total landholdings value. He would receive annual valuation notices and ALT bills from each local government where he has lands.

¹⁸ We calculated assessment ratios for each individual through dividing the aggregated taxable value of General-combined categorized land holdings by the PDLV value of the same land holdings. Also, the effective tax rate of General-combined category ALT for each individual was calculated by dividing the General-combined ALT amount by the PDLV value of the land holdings. Then, we report the weighted averages of assessment ratios and effective tax rates for each tax base bracket using the inverse of each individuals sampling rate as the weights.

¹⁹ There are 11 ordinary local taxes and 4 earmarked local taxes in South Korea. These 15 local taxes in total are also classified in terms of local government entity levying the tax. Higher-level local governments of 9 provinces and 6 metropolitan cities impose certain local taxes, while the lower-level local governments—small cities, counties, and boroughs—levy local taxes like the ALT and (buildings) Property Tax.

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Figure 1. Trends of Land Price and Land-holdings Tax Revenue

note 1 : Land-holding tax includes Property Tax on land portion and Excessive Land Holding Tax(after 1990, these two were combined into ALT), City Planning Tax.
 note 2 : The whole country land price in <Table 1> is used as land price.

**Table 1. Proportion of property tax to total tax revenues I
(capital gains excluded)**

(Unit: %)

	1990	1991	1992	1993	1994	1995	1996	1997
Korea	12.8	13.7	13.5	14.8	15.1	14.8	13.7	13.5
Japan	9.1	9.4	10.5	11.1	11.5	11.7	11.3	10.8
USA	11.4	11.8	12.0	12.0	11.7	11.3	11.0	10.7
UK	8.4	8.2	7.6	10.9	10.7	10.7	10.7	10.8
France	5.1	5.1	5.2	5.2	5.5	5.7	5.1	5.4
Germany	3.4	2.9	2.7	2.7	2.8	2.7	3.0	2.7

Note: OECD Classification.

Source: OECD, Revenue Statistics, 1965/1998.

**Table 2. Proportion of property tax to total tax revenues II
(capital gains tax included)**

(Unit: %)

	1990	1991	1992	1993	1994	1995	1996	1997
Korea	16.1	16.8	15.9	17.2	17.5	17.0	15.6	15.5
Japan	9.1	9.4	10.5	11.1	11.5	11.7	11.3	10.8
USA	13.9	13.7	13.8	13.9	13.4	13.0	13.0	13.4
UK	9.4	8.8	8.1	11.2	11.1	11.0	11.1	11.0
France	5.2	5.1	5.2	5.2	5.5	5.7	5.1	5.4
Germany	3.4	2.9	2.7	2.7	2.8	2.7	3.0	2.7

Note: 1. Modified OECD Classification with capital gains tax included.

2. No capital gains tax in Japan and Germany.

Source: OECD, Revenue Statistics, 1965/1998.

Table 3. General Combined Taxation Rate of ALT

(Unit: thousand Won)

Tax Base		Tax Rates		
Over	Not more than	Tax Amount + %		of an amount in excess of ••• Won
	20,000		0.2	
20,000	50,000	40	0.3	20,000
50,000	100,000	130	0.5	50,000
100,000	300,000	380	0.7	100,000
300,000	500,000	1,780	1.0	300,000
500,000	1,000,000	3,780	1.5	500,000
1,000,000	3,000,000	11,280	2.0	1,000,000
3,000,000	5,000,000	51,280	3.0	3,000,000
5,000,000		111,280	5.0	5,000,000

Table 4. Special Combined Taxation Rate of ALT

(Unit: thousand Won)

Tax Base		Tax Rates		
Over	Not more than	Tax Amount + %		of an amount in excess of ••• Won
	100,000		0.3	
100,000	500,000	300	0.4	100,000
500,000	1,000,000	1,900	0.5	500,000
1,000,000	3,000,000	4,400	0.6	1,000,000
3,000,000	5,000,000	13,600	0.8	3,000,000
5,000,000	10,000,000	29,600	1.0	5,000,000
10,000,000	30,000,000	79,600	1.2	10,000,000
30,000,000	50,000,000	319,600	1.5	30,000,000
50,000,000		619,600	2.0	50,000,000

Table 5. Separate Taxation Rates of ALT

Taxable Objectives	Tax Rate (%)
Farmlands which are tilled by the owner (dry fields, rice paddies, orchards)	0.1
Separate taxable forests and fields such as the families of the same clan, etc.	0.1
Pasture lots within the standard area	0.3
Factory sites within the standard area	0.3
Land for sale in lots and supply and rent by Korea Land Development Co., Korea Housing Co., and Korea Water Resources Development Co.	0.3
Land for electric facility and within mining area authorized to be mining	0.3
Lands for golf courses, villa and high-class amusement	5.0
Lands for housing exceed standard area	5.0

**Table 6. Average and Effective Tax Rates of Aggregate Land Tax (1993):
(Individual taxpayers)**

(Units: million Won, %)

Tax Base ¹ (Assessed Value)	General Combined: Statutory Rates ¹		Sample (Weighted)			
	Marginal tax rate	Maximum Average tax rate	Average ALT rate	Effective ALT rate	Effective holding tax ² rate	Assessment ratio ³
under 10	0.2	0.20	0.19	0.05	0.09	25.80
under 20			0.19	0.04	0.09	22.00
under 30	0.3	0.26	0.21	0.05	0.09	21.83
under 40			0.22	0.05	0.09	22.02
under 50			0.22	0.05	0.09	23.22
under 60	0.5	0.38	0.24	0.05	0.09	22.49
under 70			0.25	0.06	0.10	22.74
under 80			0.27	0.06	0.10	22.94
under 90			0.28	0.06	0.11	23.68
under 100			0.28	0.07	0.11	25.02
under 200	0.7	0.59	0.33	0.07	0.12	22.81
under 300			0.38	0.09	0.14	22.65
under 400	1.0	0.76	0.46	0.10	0.15	21.23
under 500			0.48	0.11	0.16	22.06
under 600	1.5	1.13	0.47	0.11	0.16	22.77
under 700			0.53	0.11	0.17	21.10
under 800			0.55	0.12	0.17	21.38
under 900			0.57	0.12	0.18	21.76
under 1,000			0.63	0.14	0.20	22.24
under 2,000	2.0-5.0	1.7-5.0	0.66	0.14	0.21	22.08
under 3,000			0.92	0.21	0.29	23.12
over 3,000			1.06	0.29	0.38	32.52

Note : 1) The total tax base of ALT includes the Special-Combined and Separate type of taxable land values as well as the General Combined type value. We appended statutory marginal and average tax rates for General combined category of land that equals 60% of total tax base for individuals for the sake of showing reference progressiveness.

2) The effective holding tax rate is calculated by dividing total holding taxes which include the ALT, city planning tax and education tax by the PDLV.

3) The figure shown are the averages of the individual taxpayer assessment ratios belonging to each tax base bracket.

**Table 7. Comparison of Land Ownership Concentration
with Previous Study : Individuals**

(Units: thousand Won, %)

Land Owners percentile	Our Results (1993)		Previous Study ¹ (1988)	
	percentage	Cumulative percentage	percentage	Cumulative percentage
Upper 5%	70.8	70.8	65.2	65.2
6 ~ 10%	15.1	85.9	11.7	76.9
11 ~ 20%	10.3	96.2	10.8	87.7
21 ~ 30%	2.5	98.7	5.4	93.1
31 ~ 40%	0.8	99.3	3.2	96.3
41 ~ 50%	0.2	99.5	1.9	98.2
51 ~ 60%	0.2	99.7	1.0	99.2
61 ~ 70%	0.1	99.8	0.5	99.7
71 ~ 80%	0.1	99.9	0.3	100.0
81 ~ 90%	0.1	100.0	0.2	100.0
91 ~ 100%	0.0	100.0	0.0	100.0

Note: 1. The distribution of previous land ownership is based on the percentage of land area owned by individuals as of June 1988. Individuals own 66.1% of total land area.

Source: Ministry of Government Administration and Home Affairs (1993)
Land *Gongkaenyum* Study Committee (1989)

Table 8. Assessment Ratios for General-Combined-Landowners in ALT

(Unit: Million Won, %)

Taxable Value Bracket	Statutory Marginal Rate	Observations	Assessment Ratios	T: Mean=0 ¹	Pr=T ²	Effective Tax Rate (%)
under 20	0.2	3,767	24.67	0.015	0.99	0.049
under 50	0.3	3,483	21.58	-0.612	0.54	0.049
under 100	0.5	3,048	22.16	-0.975	0.33	0.071
under 300	0.7	1,783	22.11	-1.250	0.21	0.105
under 500	1.0	491	21.25	-2.208	0.03	0.141
under 1,000	1.5	438	21.04	-2.970	0.00	0.195
under 3,000	2.0	319	23.44	-0.612	0.54	0.326
under 5,000	3.0	73	23.42	-0.469	0.64	0.462
over 5,000	5.0	30	21.64	-3.027	0.01	0.640
Total ³		13,432	24.11	2.97 ⁴	0.0025 ⁴	0.051

Note: 1) Student's t-value for the Null hypothesis that the group averages of assessment ratios are all equal.

2) It is the probability that the test statistic lies beyond the region prescribed by the above Ho.

3) The Data used in the analysis is extracted from the sample individuals of 15,272 taxpayers drawn by stratified random sampling from a population of 8.7 million ALT taxpayers. Among them the number of General-combined taxpayers is 13,432. We used the inverse of each observation's sampling rate in grossing-up.

4) F-value in ANOVA and Pr>F.

Source: MOGAHA, sample data on the ALT taxroll, 1993.

Table 9. Assessment Ratios for Special-Combined-Landowners in ALT

(Unit: Billion Won, %)

Taxable Value Bracket	Statutory Marginal Rate	Observations	Assessment Ratios	T: Mean=0 ¹	Pr=T ²	Effective Tax Rate (%)
under 0.1	0.3	2,647	22.43	0.010	0.99	0.067
under 0.3	0.4	1,644	22.08	-0.211	0.83	0.075
under 0.5	0.5	492	22.42	0.026	0.98	0.091
under 1	0.6	350	21.09	-2.149	0.03	0.102
under 3	0.8	106	20.50	-5.325	0.00	0.121
under 5	1.0	34	20.73	-2.011	0.05	0.148
under 10	1.2	6	23.19	0.332	0.75	0.203
under 30	1.5	.	.	.	.	.
over 30	2.0	.	.	.	.	.
Total ³		5,279	22.38	3.09 ⁴	0.0051 ⁴	0.069

Note: 1) Student's t-value for the Null hypothesis that the group averages of assessment ratios are all equal.

2) It is the probability that the test statistic lies beyond the region prescribed by the above Ho.

3) The Data used in the analysis is extracted from the sample individuals of 15,272 taxpayers drawn by stratified random sampling from a population of 8.7 million ALT taxpayers. Among them the number of Special-combined categorized ALT taxpayer is 5,279. We used the inverse of each observation's sampling rate in grossing-up.

4) F-value in ANOVA and Pr>F.

Source: Ministry of Home Affairs, sample data on the ALT taxroll, 1993.

**Table 10. Local Tax Collection by Local Government levels and Sources
(Tax Year 1998)**

(Unit: 100 million won, %)

	Total	Metropolitan Cities Tax	Borough Tax	Provincial Tax	City & County Tax	Compo- sition	
Total	171,483	77,377	14,014	34,131	45,961	100	
O r d i n a r y	Subtotal	154,094	69,227	12,036	32,203	40,628	89.9
	Acquisition Tax	24,798	11,967	-	12,831	-	14.5
	Registration Tax	33,885	17,865	-	16,020	-	19.8
	Aggregate Land Tax	11,993	-	7,149	-	4,843	7.0
	Property Tax (buildings)	6,407	-	3,420	-	2,986	3.7
	Tobacco Consumption Tax	22,666	10,568	-	-	12,098	13.2
	Automobile Tax	21,746	10,645	-	-	11,101	12.7
	Inhabitant Tax	26,391	17,203	-	-	9,188	15.4
	License tax	2,407	11	1,466	929	-	1.4
	Horse Race Tax	3,294	871	-	2,423	-	1.9
	Butchery Tax	482	97	-	-	385	0.3
	Farmland Tax	27	-	-	-	26	0.0
E a r m a r k e t	Subtotal	14,607	6,981	1,730	1,439	4,457	8.5
	Community Facility Tax	3,017	1,656	-	1,358	4	1.8
	Regional Development Tax	703	622	-	81	-	0.4
	City Planning Tax	7,523	4,703	-	-	2,820	4.4
	Workshop Tax	3,363	-	1,730	-	1,633	2.0
Revenue from the previous year	2,781	1,169	248	489	876	1.6	

Note: Special District and Direct Jurisdiction Cities Tax includes all local taxes except District Tax(License Tax, Property Tax, Aggregate Land Tax, Workshop Tax).

Source: Ministry of Government Administration & Home Affairs, *Financial Yearbook of Local Government 1999*.

Table 11. Trend of Land Value—Proportion of Taxable Land—Effective Land Tax Rate(Unit: km², billion won, %)

Classification		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
National Land Area ¹		98,707	98,730	98,875	99,010	99,184	99,203	99,268	99,313	99,373	99,408	
Current GDP		148,197	178,797	216,511	245,700	277,497	323,407	377,350	418,479	453,276	444,367	
Total Land Value(trillion) ² (A)		(1,338.9)	1,614.5	(1,821.0)	(1,797.7)	(1,665.1)	1,638.3	(1,647.3)	(1,663.0)	1668.0	1441.0	
Ratio of Total Land Value to GDP		9.03	9.03	8.41	7.32	6.00	5.07	4.37	3.97	3.68	3.24	
Aggregate Land Tax	Total Land Area in roll	86,455	96,798	96,357	97,366	95,877	99,432	102,087	98,280	92,707	93,606	
	Taxed	Area	66,378	65,560	65,133	66,082	66,056	66,914	69,807	65,839	65,719	65,097
		Ratio	76.8	67.7	67.6	67.9	68.9	67.3	68.4	67.0	70.9	69.5
		Tax base	70,611	107,751	135,232	171,374	206,824	251,964	295,119	294,755	300,812	299,423
		Taxable Land Value (trillion)		704.3	866.9	962.8	971.0	936.7	936.9	947.8	986.3	1051.6
		Standardization of tax base ratio ³		15.3	15.6	17.8	21.3	26.9	31.5	31.1	30.5	28.5
		Tax amount	179.9	447.7	531.4	695.1	891.1	1,074.8	1,330.0	1,311.3	1346.5	1299.9
	Non-Taxed	Area	20,077	31,239	31,224	31,284	29,821	32,518	32,280	32,441	26,988	28,509
		Ratio	23.2	32.3	32.4	32.1	31.1	32.7	31.6	33.0	29.1	30.5
		Tax base	13,575	31,993	55,533	67,206	72,689	63,291	67,394	54,567	87,513	65,191
Surtax I: City Planning Tax		91.1	145.7	181.7	243.9	297.9	355.9	433.2	415.7	438.5	438.9	
Surtax II: Education Tax ⁴		35.98	89.5	106.2	139.0	178.2	214.9	226.0	262.3	269.3	260.0	
Total landholdings tax (B)		307.0	682.9	819.3	1078.0	1367.2	1645.6	2,029.2	1,989.3	2054.3	1998.8	
Effective landholding tax rate (B/A) (%)		0.023	0.042	0.045	0.060	0.082	0.100	0.123	0.120	0.123	0.139	

Notes: 1) Registered Lands only excluding parcels of land without registration records after Korean War.

2) Ministry of Construction and Transportation (MOCT) published the total land value as of January 1, 1991 in the amount of 1,614.5 trillion Won on the basis of weighted average of 300 thousand sample Official Values of Standard Parcels. The year-end estimated land value figures in parenthesis in 1991 to 1993, 1995, and 1996 are extrapolated from the officially announced year-end land value of 1990 by each year's annual land price inflation rates obtained from other samples estimates. While there is a small discrepancy between the estimated land value in year-end 1994 of 1,655 trillion won and the another announced value of 1,638.3 trillion Won, it just reflects the difference of representativeness between two sample sources.

3) This is proportion of tax base amount to total amount of taxable land price.

4) This is defense tax until 1990 and changed to education tax in 1991. The total amount is 20% of aggregate land tax.

Source: Ministry of Government Administration & Home Affairs, Annual Local Tax Statistics Report.

Ministry of Government Administration & Home Affairs, Cadastral Statistics Annual.

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