A STUDY ON CONTEMPORARY URBAN LAND PROBLEMS AND POLICIES WITH SPECIAL REFERENCE TO TAIWAN AND OTHER EASTERN ASIAN COUNTRIES*

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摘 要

東亞各國因爲人多地少，私權高漲，導致都市土地，無論在生產，分配與交易的階段均發生嚴重的問題，再加上土地政策中採取嚴苛的使用管制以及不當的漲價歸公辦法，益使問題加劇。結果導致生活品質惡化以及家庭無力自行購屋，而地主卻享受暴利。長此以往，國民的貧富差距必逐漸擴大，實質的資本累積必減少，經過分析，應厲行單一稅性質的地價稅，並使開發權收歸國有，如此方能有效解決東亞各國的都市土地問題。

Abstract

The tendency toward the total privatization of land in most eastern Asian countris leads to serious urban land problems occurred in production, distribution and acquisition phase. Those problems are exaggerated by an inadequate land policy which can be reflected from the facts of rigidity of land use plannings and an improper windfall profit recapture system. As a result, living environment of urban dwellers is getting worse and younger generation may not be able to buy decent houses. On the other hand, builders prey upon the windfall profit of land from the whole economy. The inequality wealth distribution among people will be enlarged; meanwhile, the accumulation of real capital has been dwarfed. In addition to recapture land rent by the way of Henry George's single tax, the ideal land tenure is to nationalize development rights. These two measures will achieve the goals of realizing efficiency of land and distributing the revenue of land equally.

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I. Introduction

The history of human being has gone through the ages of hunting, animal raising, agricultural, and industrial development, but land remains the most important means of consumption and production. Every age has particular land distribution and utilization problems, however, it have to be solved satisfactorily; otherwise it will cause economic disaster and social instability.

Most eastern Asian countries, for example, Taiwan, Japan and Korea, are relatively small with its settled population.[1] Since a great deal of population had devoted to farming in agricultural age, that caused the demand for land far greater than the supply. As a result, rural land distribution problem was very serious since a great deal of tenant farmers lived under bare subsistence level because they had to pay rent to their landowners, which was equal almost to half of their regular harvest.[2]

Although agrarian land reform had played a very important role for most eastern Asian countries in order to transform national economy from agricultural age to industrial age, its real impacts had been argued widely. Agrarian land reform was sometimes conceived of as a necessary condition for takeoff in economic development. Some proposed that its effect is majorly social and political, rather than economic. According to either the argument of the landowner monopoly model (Cheung) or the landowner competition model (Hsiao), the result will be the same whether landowners cultivate the rural land themself, hire labors for farming, or lease their land on a fixed rent basis. However, once the supply of rural labor force is not unlimited, then agrarian land reform can be used to enhance resources allocation (Cheng). Although agrarian land reform is not always able to improve the production function of agriculture, evidence is to show that it had induced tenant farmers to use more inputs in their production. In other words, the positive impacts are "embodied", instead of "disembodied", in the increases of inputs (Chao). Fortunately, rural land distribution problem had been solved in this context by the implementation of the land-to-the-tiller policy during 1960 for most eastern Asian countries.

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[1] The total area of Taiwan, for example, is about 36,000 sq.km. or 13,900 sq. miles. The island is inhibited around 21 million people. It is only one-tenth of the area of California, while the population is greater than that of California. In addition, less than one-third of the area is plain where most of economic activities and agriculture production take place. It is believed that population density of Taiwan is the highest in the world only after Bangladesh.

[2] Prior to agrarain land reform, take an example of Taiwan, more than half of Taiwan's farmland was cultivated by tenants. Under the prevailing tenancy contracts, rent was extremely high, generally 50-70% of the annual yield, and term of tenancy ill-defined. (Lin, 1992)

It is argued that the wage rates in rural and urban sectors are closely related. Low tenant income usually lead to low wage and high profit in the urban sector (Lewis). Consequently, rural-urban migration is a natural process in which rural surplus manpower left smoothly for urban sector. Theoretically, a neoclassical model containing only two sectors, agriculture and manufacturing, can be simulated for this situation. The model was characterized by labor in fixed supply and by an income elasticity of demand for the agricultural product positive but less than that for the industrial one. Simon has proved that "equal percentage increases in the efficiency of production of ... (both sectors) will lead to a decrease in the quantity of labor employed in agriculture, and an increase in the quantity employed in manufacturing". Comparative advantages, scale economics, and agglomeration economies will enhance the trend of rural-urban population migration further (E.S. Mills, Goldstein and Gronberg, Nakamura, Alperovich). During industrial development, transformation from labor absorbing to labor saving technology, the structure of overall economy changed dramatically.[3] Meanwhile, agrarian land reform raises consumption level of the rural population whose income has been increased. As a result, the domestic market for industrial products will be expanded. With economic progress and population influx to cities, however, urban land utilization and distribution emerged as acute problems which gradually caused worsening living environment of urban dwellers. Although one of the characteristics for the housing market of most eastern Asian countries is the high percentage of homeowership. For instance, the percentage of owner-occupied dwellings of Taiwan is one of the highest in the world.[4] However, a large proportion of younger generation will

[3] In the year of 1952, take an example of Taiwan, agricultural production provided more than 32% of the net domestic product (NDP), but it declined to 3.7% in 1991. During the same period, the proportion of agricultural employment to total employment decreased from 56% to 13%. Source: Taiwan Statistical Data Book (1992), Council for Economic Planning and Development, ROC, p.18 and p.41.

[4] Percentage of Homeownership of Selected Countries

Country	Percentage	Year
Japan	67	1989
Korea	53	1985
United Kingdom	68	1988
United States	68	1984
Taiwan	80	1990

Source: 1. The figure of Korea came from Land and Housing of Korea (Tokyo: Japan Comprehensive Research Institute, 1988)
2. The rest of figures came from Council for Economic Planning and Development, Executive Yuan, Republic of China, 1992.

not able to afford a decent house due a relative high housing price.[5]

This paper tries to present the contemporary urban land problems occurred in the other eastern Asian countries, including Japan and Korea, in general, and Taiwan, in particular, by a systematic way and offer a feasible urban land policy to solve these problems after a rigorous discussion. It has been divided into five sections. In addition to the first section is an introduction, the second uses a circular flow chart to depict the role of land engaged in production, distribution, and acquisition phase. By the description of the second section, the third intends to investigate different land problems emerged in each phase. The fourth will provide a workable urban land policy, based upon the discussion of the second and the third section. The final section is the conclusion.

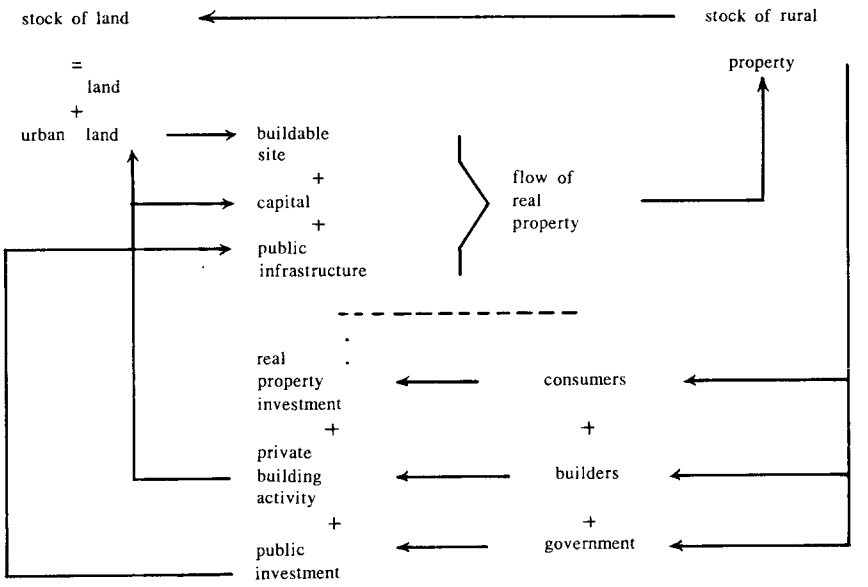
II. The Circular Flow Chart of Urban Land Utilization

As we know, we can not solve land problems isolately. We have to merge it into macroeconomic context. This is why we employ a circular flow chart in this section to depict the role of land when it is involved in production, distribution, and acquisition phase. From the standpoint of production, the stock of land in any area is almost fixed in amount. Although we may be able to reclaim tidal land from sea, we may igore it in the short run because the reclaimed land is limited relative to the whole area. While it is common to treat land as a homogeneous factor of production, each piece of land has a large number of attributes that will vary between parcels. As a result, there are a lot of different land uses which competed for each other; in order to facilitate the discussion, we may group them into two broad classes: the rural and the urban land. Naturally, the former can be further divided into forestry, plantation, stock raising, and aquatic culture and so on; on the other hand, the latter residential, commercial, industrial and so on. Each class or sub-class of land use has to be supported by its bid rent since only the one who offer the highest bid rent can utilize the land. However, the sum of areas for each land use can not exceed the stock of land.

Rural land is converted to urban land once rent of urban land equals the opportunity cost of rural land plus the opportunity cost of conversion capital (Capozza and Helsley) , the former equals agricultural rent and the latter the product of interest

[5] According to the Survey of National Wealth done by the Department of Budget, Acounting, and Statistics, Executive Yuan, R.O.C. in 1990, an ordinary family lived in Taipei, the capital city of Taiwan, has to save at least thirty-seven years in order to buy a decent house. In addition, the ratio of housing price to its rent (the rent multiplier) varies from 237 to 801 in Taiwan (comparing that of about 100 in the U.S.A.). Meanwhile, the ratio of average house price to average family income is 5 (comparing that of about 3 in the U.S.A.). (Hsu)

Figure I The Circular Flow Chart of Land Utilization



rate and conversion capital. If all urban land uses are determined by its market rent, however, there are at least two kinds of market failure will emerge to make land utilization inefficiently even under perfect competition, i.e., negative external effect and inadequate providence of public infrastructure. Externalities may result a nonconvexity in the social production set limits the application of both Coase and Pigou solutions for achieving an optimal allocation of land resources (Crone). In fact, land market is notorious for its imperfect competition due to poor information will make land use more inefficient. As a result, public sector has to regulate land utilization. Zoning, one of land use plans, is to remedy market failure deriving from externalities by separating, excluding, and limiting dissimilar urban land uses. Development rights authorized by various land use plans, especially by zoning regulation, is given by the public to landowners freely for most eastern Asian countris. In this way, it has been pointed out that "zoning is not designed for consumer protection, but is rather a measure for producer protection; that is, zoning serves to augment the wealth of those regulated "(Goetz and Wofford).

By the requirement of zoning, any additional supply of urban land has to be met by the conversion of rural land. Of course, demolishing of obsolescent building can vacate some sites and also increase the supply of urban land. However, buildable sites which

have to be produced from urban land have been facilitated by some necessary public infrastructure since any bare urban land can not be used efficiently for the production and the consumption. For example, lack of road, park, primary school and so on will make a community inadequate for living. In addition, poor maintenance of infrastructure is one of the reasons for some areas in a city to be depressed.

On the supply side, a production function can be written as,

$$Q = F(K, N, L; A) \tag{1}$$

where Q represents the output, which is twice differentiable, homogeneous of degree one of with capital, K, labor, N, and land, L. A is a shifter to represent the characteristics of public infrastructure that influences the productivity, especially for the production of real property. As usual, $F_{K,N,L} > 0$, and $F_{KK,NN,LL} < 0$. The purpose of producers is to maximize their expected profit which is the difference between the value of output and the value of non-land inputs. In other words, producers' behavior is to solve the following problem,

$$\begin{aligned} &\max.\ \pi = Q - (iK + wN + rL) \\ &\text{s.t. } Q = F(K, N, L; A) \end{aligned} \tag{2}$$

where π stands for the expected profit, i, w, r interest rate, wage rate, and rent in terms of real goods, Q, respectively. The derived demand function for buildable sites can be calculated by the expected profit defined by equation (2). The bid rent of any parcel of buildable site will equal the expected profit by landowner's manipulation, especially the supply of the sites is limited by different land use plans. In this case, bid rent is equivalent to monopoly rent. Under perfect competition, however, the equilibrium rent of any parcel of land is the interaction of the bids of producers and the offers of the landowners. In other word, any individual is unable to influence the equilibrium rent (Palmquist).

The output of real property for each period, usually, a year, can be considered as the flow, in comparison of the stock, of real property. The proper proportion of land and non-land input in the production depends on relative land prices. Under the present zoning regulation and building codes, it is believed that the higher the land price the higher substitution of non-land to land (Clapp 1979, 1980, Sirmans).

On the demand side, we may conclude that consumers usually prefer homeowning to home renting in order to maximize its utility (U) based on the argument of several

authors (Grillingham and Hagemann). Duesenberry's relative income hypothesis is essentially that consumer's utility increase only if the individual's consumption rises relative to the average consumption level. However, we may extend this model to include relative assets position as well. Once the consumer finds that he is in a lower position of the assets distribution for a community, then he has very strong desire to upgrade to a higher position. The incentive to purchase real property has been enhanced due to the motivation for investment. One of the best ways to accumulate consumer's assets in most eastern Asian countries is to buy house in order to obtain capital gain[6] and to improve its relative assets position.

The central task of a consumer is to choose goods and services to maximixe its utility given an income, Y. Assume that a consumer can derive utility from a composite good, Q', and real property, Q". In addition, assume a consumer's satisfaction depends not only Q' and Q", but also on its relative assets position, R(Q"), which is an increasing function with its argument, but increases with decreasing rate. As a result, a consumer's utility function can be presented as

$$U = U(Q', Q'', R(Q'')) \tag{3}$$

As usual, $U_{Q'}$ and $U_{Q''} > 0$, $U_{Q'Q'}$ and $U_{Q''Q''} < 0$. Meanwhile, an increase in the relative position of assets also increases satisfaction, i.e., $U_R > 0$ and $U_{RR} < 0$. This implies that the less assets a consumer has the higher marginal utility accured from the upgrading of the relative assets position.

The budget constraint of the household is

$$Q' + P^Q Q'' = Y \tag{4}$$

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[6] For example, from 1973 to 1990, (nominal) housing prices of Taipei Metropolitan was increased around 20 times in the suburb and 15 times in the downtown. (Chang) According to estimation, in addition, land price of Taipei increased fourteen times from 19

70 to 1986. (Lin, 1989) Meanwhile, index of consumer prices and wholesale price are increased from 30.4 and 38.4 to 110.7 and 94.3 respectively. (Source: Taiwan Statistical Date Book (1992), Council for Economic Planning and Development).

There are different data related to Japan. Rose concluded that, from 1952 to 1990, real urban residental land values increased 30-fold, and real housing rents increased 2- to 4-fold. Harrison (1984) had estimated that land price have been risen on the average by 15% yearly over the last 20 years. According to a Nomura Research Institute report in 1990, urban land values tripled in the 1980's. (Land/Liberty)

In Korea, housing price index is increased from 379 in 1970 to 5051 in 1985. At the same period, housing sites price index is increased from 676 to 16373. (Data came from Land and Housing of Korea (Tokyo: Japan Comprehensive Research Institute, 1988), in Japanese)

In contrast to U.S., long-term return to holding land is no higher than the rate of return to holding high-grade bonds. (Kau and Sirmans)

where P^Q is the price of real property in terms of real goods, Q'. The maximum for that a consumer's utility can be solved as[7]

$$U_{Q''}/U_{Q'} + (U_{Q''}/U_{Q'})R' = P^Q \tag{5}$$

In comparison to the ordinary utility function, U = U(Q', Q"), expenditure level for Q" is higher than it would be. This implies that consumers in the other eastern Asian countries have very strong incentive to own real property. On the other hand, the expenditure level of other consumed goods and services is less than it would be (Lin, 1990). Since a consumer has to save a larger part of his income to pay real property, this can be used to explain partly why the saving rate in the other eastern Asian countries is so high.[8] In comparison of developed countries, "the aggregate saving will decline substantially if life-cycle consumers spend their housing windfalls. Homeowners with a bequest motive, however, may save more to assist their children in buying the now more expensive housing" (Skinner).

In order to investigate the impact of rent payment on economic growth for the other eastern Asian countries, we need to know more detail about wealth, saving and land price in addition to production (Nichols). Wealth, W, is the sum of capital accumulation and land value and measures in terms of real goods also.

$$W = P^QL + K \tag{6}$$

We may define that saving, S, is the increases of wealth. It is a function of income which includes capital gains on land.

$$S = DW = S(Q + (DP^Q)L) \tag{7}$$

where D represents differentiation operator with respect to time. The motivation of saving is to increase wealth for any consumer or producer, which can be fulfilled either by capital accumulation or by the increases of land value. The price of land equal the present value of anticipated land rents.

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7 Given the problem of maximizing equation (3), subject to the constraint of equation (4), we may construct a Lagrange function as follows:
$L = U(Q', Q'', R(Q'')) + t(Y - Q' + P^QQ'')$
where t represents a Lagrange multiplier. We are able to find equation (5) after we rearrange the result of partial differentiation of L with respect to Q' and Q" respectively.

8 Take Taiwan as an instance, savings as percentage of GNP are always greater than 30; sometimes, they even approach 40. Source: Taiwan Statistical Data Book, Council for Economic Planning and Development, Republic of China, 1992.

$$P^{Q}(t) \geq \int_{t}^{\infty} r(t)e^{-it}\,dt \qquad (8)$$

By equation (1), (6), (7) and (8), Nichols has proved that "the rate of capital accumulation depends negatively on both the equilibrium rate of growth and the relative share of in national income."[9]

Equation (8) reveals that the price of urban land is no less than the value capitalized by the land rent bacause their components do not correspond to each other. The price has four additive components: the value of agricultural land rent, the cost of conversion capital, the value of accessibility, and the value of expected future rent increases. On the other hand, the aggregate land rent consists of location rent, rent on capital and agricultural land rent. Once rural land has been converted to urban land, the value of expected future rent increases emerges, which is also called the growth premium and does not have the corresponding counterpart on the side of rent. In rapidly expansion urban areas, the growth premium may account for half of the average market value of land (Capozza and Helsley)[10], the former two may also be classified as the differential land rent in contrast to aggregate land rent. It has been proved that, under certain conditions, expenditures on public infrastructure should be equal aggregate land rent in cities of optimal size (Arnott and Stiglitz). In other words, only the portion of land value increased by landowner's effort can be retained by themself; the rest of increment value, also called the unearned increment value or windfall profit, should be recaptured by the public to pay for installation of infrastructure since landowners do not have any contribution.

There are two kinds of income derived from real property during its economic life. One is the growth premium due to the appreciation of site, which is immaterialized and may not be realized until transaction of property happens. The other is the periodic materialized revenue which includes the rent of rental property and the imputed rent of owner-occupied property. In each period, the flow of real property has been

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[9] The share of land rent in national income is a debatable issue. On one hand, classical economists argued that pure land rent has become a declining fraction of GNP historically. For example, Paul Samuelson supported a figure of 3%. (Barron) In addition, E.S. Mills concluded that land rent may have been 7.7% of U.S. national income in 1850, and may have fallen to about 6.4% by 1956. On the other hand, tax experts argued that the proportion of land is very important relative to other production factor reward. For instance, Steven Cord arrived at the conclusion that land rent was $658 bn, equal to 24% of US national income in 1988. (Barron) According to the estimation done by an Australia-based periodical, Incentive Taxation, land rent is 20% of U.S. national income for 1986. It is believed that the share of land rent in national income for most eastern Asian countries is much higher than that of US due to the relative small area with large population.

[10] However, Tideman argues the land value derives from three sources: i.e., its productivity, the growth of community, and the provision of public infrastructure.

accumulated as the stock being used by the society. Only the rate of accumulation exceeds that of depreciation, the stock can be increased in order to meet the increasing demand.

Every product of production has to be distributed among participants in the circular flow. In this paper, we may categorize those participants into three sectors: the public, which includes different level of governments, the consumers, which includes households and producers other than builders and represents final demanders of real property, and the builders, which are the suppliers of real property in the circular flow. Builders are defined as the producers who take all responsibilities to produce real property in order to make profit. They may be developers, constructors, landowners, or any combination of them. In the distribution phase, the public receives real property holding and transaction taxes and rental income taxes. Of course, the public may also have periodic revenue if it has real property for rent and an once-for-all income if it sells its real property. Finally, builders may have income either from sale of real property built by them or from rental property if they prefer to hold the property not for sale.

The purpose of any producer is to maximize his expected profit; i.e, eqution (2). The necessary condition of maximization is the marginal productivity of each inputs equals its cost respectively. Different components of non-land inputs, like capital and labor, have different productivities. But non-land inputs of high productivities do not have a correspondingly high price, because they can be supplied in response to demand at prices. Total supply of land can not be expanded by the increases of land price as other inputs do. In addition, the productivity of raw land for urban development is limited. However, landowners are participating like the capitalist in the process of production. It is no use to pay for land because land has no cost; of course, to the user who buys and leases land the rental value is part of his costs (Hawtrey). Therefore, land price can only be used as a guide of allocation between different land uses and can not be used as income sources of landowners because to them there is no cost. What is more, it is unfair that public infrastructure, which is a necessary input of real property, receives no reward directly.

To produce real property, which is the most valuable national wealth, has to spend a great deal of resources. In the process of the circular flow, each sector needs recouping extra financial support. For the public, it has to generate revenue from consumers by other taxations or bonds issuing in order to cover the deficit of its expenditure for infrastructure. For builders, it may raise additional funds by themself, or from consumers or the public. For the consumers, they may use the rental income from real property or other income, which is derived from other production, to accumulate their savings that will be used to buy real property they need.

Each sector has to use their usuable funds to engage in the acquisition of real property when the distribution of land product has been finished. For the public, it uses its annual budget to install adequate infrastructure to enhance the productivity of urban land. For the builders, they use their funds either for the employment of adequate capital and building sites to build real property or to buy vacant land or building sites for hoarding. Finally, for any consumer, he uses his savings, supplemented by loan from other consumers or the public, to buy real property either for consumption or for production.

The production will be stimulated by the activity of acquisition. Then, the product of production will be distributed among the three sectors. Eventually, each sector uses their income from distribution for acquisition. Usually, this circular flow will proceed round and round forever.

III. Contemporary Urban Land Problems

The other eastern Asian countries, which had been through industrial age already, have to face a great deal of urban land distribution and production problems. We would like to study them one by one according to the order of circular flow depicted by the preceding section.

Since the stock of land has been fixed, each kind of land use has to compete for each other by means of bid rent. Only the use which is able to offer the highest bid rent can exist. Different land uses will reach maximizing efficiency altogether if their marginal productivities have been made to be equivalent. It marginal productivity of urban land is far greater than that of the rural land, this means there is disproportion in the allocation of land resources. These are the cases of all eastern Asian countries for the time being. For the purpose to provide adequate public infrastructure and to enhance positive external effect, the public sector insists to promote different land use regulations which include national comprehensive development plan, regional plans, metropolitan plans, local jurisdiction comprehensive plans, urban plans, non-urban land use regulation and so on. The volume of urban land has been determined by different land use plans, not by the interaction of the demand and the supply of real property. The purpose of land use plans is to alleviate market failure; however, the disadvantages of rigidity of the plan overwhelms its advantages. As a result, optimal land use plans are in theory, the practice of land use plans have been notorious. It has been argued that land use plans become negative-sum games (D.E. Mills).

For all eastern Asian countries, the planned area designated by city plans may be

enough to accommodate urban dwellers in the near future.[11] However, we may neglect the fact that population grows unevenly and faster around metropolitan areas.[12] As a result, vacant land in the area with excess demand is almost exhausted and land prices are increasing rapidly during past few decades. When builders can not legally find buildable sites at reasonable cost, they try to invade rural land illegally.

Since use for industry, commerce and residence can generally offer higher bid rent than farmland, the conversion of farmland to non-farm purposes is emerged. From 1950 to 1989 paddy fields decreased by 26,516 hectares, take an example of Taiwan, whereas dry farmland increased by 65,792 hectares. The increase of dry farmland was due mainly to reclamation and development of forest land and wild land. In the same period, land use for building increased by 78,008 hectares and land use for roads and irrigation facilities increased by 58,360 hectares.[13] Those figures have not include illegal conversion of farmland yet. Housing sites occupy the largest part of the land use conversion. Since the windfall profit of legal or illegal conversion is tremendous, the trend of rural land invaded by other uses will be stimulated further in the future.

Due to expensive land cost, it is very hard for the public to execute the power of eminent domain, which has to be consistent with the requirement of just compensation (Munch, Munneke) to take necessary land from landowners to construct adequate infrastructure. Landowners, with very high expected value of their land, are not willing to receive payment of compensation, and even hold rally for demonstration of their appeal. As a result, a great deal of public infrastructure projects are delayed and the productivity of urban land can not be enhanced to a reasonable level.

Under perfect competition, builders can only make normal profit because the long run supply of new construction is perfectly elastic (Follain). On the other hand, they can

[11] In 1990, for example, the number of designated city planning districts in Taiwan are over four hundred in which the area for residential development are about seventy thousand hectares according to the statistics. (Data released by Construction and planning Administration, The Ministry of Interior, R.O.C.). If population density is limited reasonably within three hundred per hectare, then the whole area of city planning districts can afford to accommodate twenty-one million people. This is far beyond the demand in the year of 2000.

In 1986, the number of designated city planning districts in Japan is 1,222 in which the total covers 92 thousand square kilometers, equivlent to one-fourth of national area.

[12] For example, population density of Yuanho City, a suburb community of Taipei, is over one thousand per hectare. ibid.

[13] Table 1 Change of Land Area by Category

Land Category	1950	1970	1989	change from 50' to 89'
Paddy fields	521,692	546,706	495,176	-26,516
Dry farmlands	328,027	345,879	393,819	+65,792
Land for building	71,418	92,354	149,426	78,008
Land for transportation and irrigation	26,969	48,537	85,329	58,360

Source: Basic Agricultural Statistic, COA., ROC., 1990.
Unit: hactare

earn a great deal of windfall profit from land transaction. As we mentioned in the preceding section, land price derives from the value of agricultural land rent, the cost of conversion capital, the value of accessibility, and the value of expected future rent increases. Only the portion of land value increased by landowner's effort can be retained by themself; the rest of incremental value should be recaptured by the public. There are four occasions we may choose to tax those windfall profit (Hagman). The first is to tax upon land when it is changed zoning from the rural into the urban; those taxations include development charge, subdivision fees, or subdivision permission exactions. The second is to tax upon land when it is installed with infrastruction; this taxation is similar to betterment taxes. The third is to tax upon bare land, or building site when it is transferred; this taxation is land value increment tax (Lin, 1986). The fourth is to tax upon land when it is held by any owner; this is the purpose of land value tax similar to Henry George's single tax proposition. The third is just as real property transaction tax and the fourth real property holding tax. They are prevailing in Japan, Korea and Taiwan at this moment.[14]

Whenever or whatever tax has been used to recapture rent and windfall profit of land, the assessment has to be exact. The problem is that the assessment always underestimate the market value for political reasons. Obviously, the rent and the windfall profit of land can only be taxed a little bit by the public when real property transaction happens. As a result, inequlity distribution of income and wealth is enlarged on one hand; urban land can not raise its productivity due to lack of adequate infrastructure on the other hand. In addition, real property holding tax, which is designated to recapture land rent periodically, with preferential rates and underestimate of assessment lower the opportunity cost for holding real property; a great deal of

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[14] However, real property transaction tax is one category of income taxations both in Japan and in Korea, it is an independent tax, land value increment tax, in Taiwan. Tax rates are 40%, for short term holding, and 50%, for long term holding, in Japan and Korea, 40%, 50% and 60% in Taiwan. On the other hand, land value tax and housing tax are combine as real property holding tax both in Japan and in Korea, they are taxed separately in Taiwan. Tax rates are proportonal to the assessed value from 1.4% to 2.1% in Japan, 0.3% in Korea, progressive from 0.1% to 5.5% in Taiwan.

[15] There is an assessment principle advocated by Dr. Sun Yat-sen's doctrine in Taiwan, who is the national founding father, landowners are the persons who take responsibility to declare their land value. If landowners underestimate their land value; then the government may use preemption power to purchase their land according to their declared value. On the other hand, if landowners overestimate their land value; then they have to pay higher land value tax than otherwise. As a result, landowners will declare their correct land value, eventually.

For the time being, however, the assessment is quite different from Dr. Sun's proposition due to political reasons. The local government divides the whole jurisdiction into several land price zones. Within each zone, assessors collect market transaction data which are condensed to a typical zone land price. Each landowner can declare his/her land value no greater or less than 20% of the typical price. It has been revealed that the assessed value is only half of the market value on the average.

building sites located in the downtown area have been underused.[15] Any new additional demand for urban land has to be met in the suburb; in other words, demolish obsolescent building or urban renewal to meet part of additional urban land demand does not function very well. As a result, the size of cities become larger and larger. A great deal of new demand for urban land has gone to the surrounding area of metropolitan. As we mentioned before, land use plan can not keep pace with explosive population growth. What is more, the government can not install infrastructure in the new developed areas because such projects can neither obtain needed land in time, nor afford by the government because a great deal of windfall profit of land can not be recaptured. The suburb with low productivity can not afford to accommodate an adequate population who will more further away from suburb. The construction of infrastructure will always fall behind the schedule. This is really a vicious cycle of city growth.[16] In addition, increase in city size and urban growth have led to greater income inequality since it raise monopoly rents earned by those insulted from competition (Haworth).

As we said before, all eastern Asian countries are relatively small areas to its population. The ordinary demand of land already suppresses the designated supply in some cities. In addition, urban land policy, which can not solve the problems of utilization and distribution, stimulates additional demand for urban land. Consequently, land prices are soaring during past decades.[17]

On the other hand, The Economic Planning Agency of Japan recommends that farmland in urban areas should be taxed as residential site. It calculates that, if such a change had been made in 1976, land prices in the Tokyo suburbs would be 28% lower than they are in 1990. As a matter of fact, a family with a 1,630- square metre "farm" in central Tokyo, worth Y790bn, paid just Y22,300 in property tax in 1989. Even if the site had been classified as residential, the owner would have paid only Y1.65m in property taxes, which is equivalent to 0.0002% of the real land value. (Land/Liberty)

Some have estimated the average tax rate on land in Japan to be only 0.15%, as compared with the nomial 1.4%. The enactment of the Basic Land Act in 1989 necessitates an overall review of land taxation in order to consist with land policy. In addition, the "Basic Report on Desirable Land Taxation" called for fundamental changes in the land tax system. The following are the main idea of the land tax reform proposed by Japanese government.

(1) Introduction of the land value tax. Tax rate is 0.3% of the total amont of all land held by the landowner.

(2) Assurance of appropriate valuation for the real property. The assessment value is expected to rise an average of 30% in 1991.

(3) Introduction of taxation on idle land.

(4) Rationalization of taxation on agriculture land. (Ozaki)

[16] For instance, Japanese investors recently realized that the prices of shares of firms located in Tokyo had reached unsustainable levels, so they switched their attention to firms with land outside the capital. As the result, there has been a sharp increase in land price in provincial cities. According to the Japan Real Estate Research Institute, land prices in Osaka were traditionally 60% of those in Tokyo, they will catch up soon. (Land/Liberty)

[17] A property expert had estimated that average costs of residential land per square foot range from US$3,981 in Tokyo through US$1,296 in New York City and US$389 in San Francisco to US$144 in London and US$53 in Singapore. Business land, according to the same estimation, cost even more, with such prices as US$18,971 in Tokyo and US$2,851 in New York (Zarsfield). In addition, the average of residential land in the whole of Japan in 1985 was Y69,000 per square meter, compared with Y3,000 in the US and Y4, 600 in Britain. (Land/Liberty)

In addition, the motivation of builders to pursue maximum profit leads to a fluctuated production of real property which exaggerates business cycles. Theoretically, the land market operates in cycles of 18-year duration in western world (Harrison 1983). The duration is much shorter for all eastern Asian countries. From 1950' to this moment, for example, Taiwan has experienced three cycles of real property market. Housing prices increased dramatically when the period of prosperity came. On the contrary, it did not decrease very much when the recession emerged due to the ratchet effect of price. Meanwhile, the ratio of supply price of housing to household's income is increased. In 1989, take instance of Taipei, an ordinary households has to spend twelve times of its annual income to buy a decent house in downtown; on the other hand, it is eight times in suburb (Lin, 1989). Therefore, households need to save for a long time to buy a house and can not meet wants other than housing satisfactorily. In addition to the negative impact on economic growth, consumers are not able to achieve the maximum consumption path which is the target of maximum social welfare in theory (Nichols).

In addition, other sectors have to soak additional funds from other sources. For the public, take an example of Taiwan, it has to generate revenue from other taxations or bonds issuing since the revenue of land taxations can only cover fifty-five percent of the installation expenditure of infrastructure in recent years (Wu). It seems that the public tries to transfer wealth from the poor to the rich. For builders, it may raise additional funds by themself or from other sectors. Eventually, the crowding-out effect will affect the accumulation of real capital further because the rate of interest has been increased. What is more, a great deal of ordinary firms have been attracted to join land speculation since the windfall profit from land exceeds the normal profit of any production. The allocation of resources to production for the whole economy has been distorted seriously. The Paris-based OECD has revealed that the land of Japan is worth more than the combined value of the US, Canada and France.[18] What is ridiculous!

[18] Land Value Comparison b/w Different Countries

	Japan	US	France	Canada
Area (sq. km)	377800	9363500	549000	9976000
Value of land				
(per cent GNP)	4540.0	2950.0	172.1	256.2
(per cent wealth)	54.9	21.0	7.6	19.9
Value of housing				
(per cent GDP)	49.7	88.4	153.9	64.0
(per cent wealth)	8.6	24.9	39.8	18.2

1. 1983
2. Dollar billions at purchasing power parity exchange rates in 1985 (which value a dollar at Y222, FF7.27, and C$1.22)

Source: OECD, Japan, Paris, 1988, p.75.

IV. To Solve Urban Land Problems by A Feasible Land Policy

Land tenure is formed gradually by land utilization and distribution policies. From the standpoint of history, each area has been through the tenure of common, public and private property according to the evolution of hunting, animal raising, settled agriculture, and industrial ages. In modern era, the private tenure is dominant; however, some areas go back to the public. It is because that both systems have its own merits and demerits. Some propose to take the middle course. As a matter of fact, according to Alterman, thirteen kinds of land tenure can be chosen:

" 1. Total nationalization of land
2. Substitution of long-term leasehold for freehold
3. Nationalization of development rights
4. Obligation to purchase all land for future development preemption rights
5. Land banking and reserve
6. Long-term timing controls
7. Unitization and Reparcellation
8. Betterment Taxes
9. Extensive exactions
10. Land use controls, little compensation rights
11. Land use controls, extensive rights to compensation
12. Indirect planning controls (voluntary planning, etc.)"
13. Total privatization of land

Although some of them are not eligible to be classified as land tenure, e.g. unitization and reparcellation, each has to achieve the major goals of realizing efficiency of land and distributing the revenue of land equally. Land tenure system of most eastern Asian countries is somewhere between number six and number ten by Alterman's classification. However, it is gradually inclined toward the bottom end because the concept of freehold is prevailing; in other words, total privatization of land will be dominant in the future if we leave self-interest to operate freely. Land is given by the nature and belongs to people on which they live, ownership is only the mean by which a particular person, landowner, is authorized to use land efficiently. Although each land tenure, as we said earlier, has its own merits and demerits; its contribution to human beings depends on the evolution of economy. In agriculture age, farming land has to be owned by the farmers who will maximize the efficiency of land by self-interest. In

addition, farmers harvest their fruits is consistent with equal distribution of revenue. On the other hand, urban land should not be owned by individuals because their purpose are only to have decent dwellings. Otherwise, they will use land as a means to make windfall profit, or even worse, to exploit other landless people. A new type of land tenants will emerge in urban area, who have to work very hard to earn a place for living and just as rural peasant-tenants in agriculture age. There are also a lot of other demerits we have mentioned already. As we know, the productivity of urban land derives mostly from location; in addition, the value of expected future rent increases and a great deal of the cost of conversion capital can not be contributed to individual's effort. As a result, most revenue from land should go to the public. As we know, ownership is a bundle of rights, it means some of the rights have to be belonged landowners to increase efficiency of land uses; on the other hand, some have to be belonged the public to release the problem of equity.

Total nationlization of land, which may achieve the goal of equity, had caused inefficient production of communist countries. The public has to own a great deal of urban land is the prerequisite of substitution of long-term leasehold for freehold. This land tenure can be adopted in some colonies, such as Hong Kong, it is hardly to be followed by a democratic country. In addition, the public has to use a large part of resource in order to implement either obligation to purchase all land for future development preemption rights or land banking and reserve. As a result, the ideal land tenure for most easter Asian countries at this age should be the nationalization of development rights, which is the number three land tenure by Alterman's classification. Nationalizing development charge of the converted land from the rural to the urban, it will achieve the goals of realizing efficiency of land and distributing the revenue of land equally. In other words, development rights can not be given to landowners freely as usual. We have to transfer the relationship of development rights from "give and take" to "sell and buy". Once the public decides to develop any city, it may designate several alternative areas. Only the one who offers the highest development charge is authorized to develope the sites. Urban land consolidation or zone expropriation program, which have been implemented in Taiwan at this moment, may be classified as the prototype of nationlized development rights. Every bit of rent will go to the public by means of auction for development rights.

At the same time, we propose to use land value tax adequately. Only an adequate assessment and tax rate can recapture the rent properly. This assures that the goal of maximum efficiency will be realized because land users will not underuse the valuable resources. In addition, land prices will be suppressed if the windfall profit has been taken away. Producers will go back to normal production because they do not have

motivation of land speculation.

V. Conclusion

The tendency toward the total privatization of land in all eastern Asian countris leads to serious urban land problems occurred in production, distribution and acquisition phase. Those problems are exaggerated by an inadequate land policy which can be reflected from the facts of rigidity of land use planning and an improper windfall profit recapture system. As a result, living environment of urban dwellers is getting worse and younger generation may not be able to buy decent houses. On the other hand, builders prey upon the windfall profit of land from the whole economy. The inequality wealth distribution among people will be enlarged; meanwhile, the accumulation of real capital has been dwarfed. In addition to recapture land rent by the way of Henry George's single tax, the ideal land tenure is to nationlize development rights. These two measures will achieve the goals of realizing efficiency of land and distributing the revenue of land equally.

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