

## LAND SPECULATION IN KOREA: CAUSES, ECONOMIC IMPACT AND A PROPOSAL FOR INSTITUTIONAL REFORMS

LEE, JIN SOON\*

### I. INTRODUCTION

Korea has suffered from cyclical land speculation since the mid-1960s, and the land problem may now be the most serious problem confronting the nation. The Korean people, like the Japanese as described in Hanayama (1986), have created three myths about urban land: the myth of the urban land shortage, the myth of continuous increases in land prices, and the myth of the futility of land policies. These myths have so dominated Korean thinking that land seems to have acquired some supernatural power to bring big fortunes to those who possess it. People are willing to buy land at an inflated price because they expect to sell it later at an even more greatly inflated price.

The current economic crisis in Korea may be deeply rooted in the land problem. Rapidly rising land values have attracted savings away from productive forms of investment. Since land has been the most secure and profitable investment, it has attracted money and entrepreneurial skills that would otherwise have been devoted to production in industry. Rapidly rising land values have also contributed to the reduction in the rate of private saving, because home ownership (the objective of most private savings in the past) is now beyond the means of most workers. In the past, perhaps the greatest incentive for hard work was the achievement of home ownership, but now that this prospect has been withdrawn from most workers, the incentive to work has been dampened. Astronomical land prices could sabotage many government projects for regional development. There comes a point where the cost of land for purposes of building roads, bridges, and public housing will reach deterrent levels.

The land problem in Korea has, however, rarely been analyzed by economists. The study of land and the land market encompasses various disciplines, ranging from economics and finance to planning, real estate, and geography. Whereas professionals in regional and urban planning have been more concerned with problems relating to the allocation of land according to the type of use, economists

---

\*Soongsil University

have been mainly interested in the determination of prices in the land market. Prior to the nineteenth century, land market analysis was confined to the agricultural land market. The subsequent emergence of capital and labor as more important factors of production in industrialized societies relegated land to the background. Furthermore, the fact that land has some characteristics in common with capital—such as durability and heterogeneity—led to the belief among economists that land is synonymous with capital and that therefore no separate theory of the land market is required. Economists (Mills and Song 1979, for example) mostly believe that land speculation can keep prices above equilibrium for only short periods of time, and that speculation is likely to make land prices more (rather than less) stable. They also tend to believe that land speculation does not create problems in terms of either equity or efficiency. This view, however, may be a fatal mistake, as argued by Henry George (1946) and his adherents.

The major purpose of this paper is to examine two closely related issues. One is theoretical, the other is policy oriented. Although land value theory is still a controversial subject among economists, an attempt is made here to examine it from the perspective of the Korean phenomenon of cyclical land speculation. Another theoretical issue—Henry George's hypothesis on the cause of economic recession—will be examined in conjunction with the historical data on Korea. As a policy-oriented issue, a solution to land problems will be investigated.

This paper begins by examining the traditional view of economics based on the theory developed by Henry George and Fred Harrison. The succeeding sections provide an overview of the historical evolution of the land system and land problems in Korea and Japan. In the final section, the causes of land problems in Korea are discussed, and alternative policies are suggested.

## II. THEORETICAL BACKGROUND

### 1. Unique Characteristics of Land

Land is an indispensable prerequisite to life. Man has always been dependent on land for life and livelihood. The human being is a land animal, who can live only on and from land and can use other prerequisites to life (such as air, sunshine, and water) only in conjunction with the land. No one can live without housing. Land is essential for the modern factory or office building just as it is for the timeless farm.

Economists have ignored the distinction between land and capital. Although the production function was defined by classical economists in terms of three factors—land, labor, and capital—it was subsequently simplified to include only capital land labor. Reflecting the diminishing importance of land in the dynamic process of urban-based industrial production, land was subsumed under the concept of “capital”, and its unique characteristics were thereby masked or effaced.

This change freed the minority who constitute the land speculators to exercise a devastating influence over society.

Economic theory argues that speculation serves a useful economic purpose, since speculators bear risks that do not have to be borne by other agents in the market. The theory also argues that speculation will not affect long-run price levels and that speculation will in fact speed the adjustment to long-run equilibrium and dampen the oscillations of adjustment. In the end, the price will be determined by user demand and by non-speculative supply. These notions, however, have developed largely from studies of speculation in markets other than the land market—notably the foreign exchange markets and stock exchanges. The arguments against this conventional view was developed mainly by Henry George and his followers—Carter (1982) and Harrison (1983). They clarified the unique characteristics of land relative to capital, and their views are summarized in the following paragraphs.

For a start, land is fixed in quantity, whereas capital may be increased without limit, since capital is the product of human labor. Because of this difference, speculation in products (including capital) tends to stimulate production, whereas speculation in land tends to check production. Speculation in products tends to increase the demand for, and thus the price of, products. The price increase induces more production, which, increasing the supply, tends to lower the price again. Throughout this cycle, there has been a stimulating effect on production. The tendency of speculation in land also increases the demand for land and thereby increases the price of land. However, since the supply of land is fixed, an increasing scarcity of land develops. Land prices rise beyond the level at which labor and capital can profitably engage in production. The inevitable result is to check production.

Although speculation in either land or stock is a risk-taking activity, they have opposite effects on the economy. When people are gripped by speculation mania, principally near the upper end of the land value cycle, bidding for money to buy land pushes up the rate of interest. It then becomes difficult to borrow to finance the development and manufacture of new machines, on which people rely for new jobs and wealth. Speculation in share prices on the stock exchange in the hope of capital gains, on the other hand, reduces the cost of finance to firms, thereby directly encouraging investment.

Land, unlike capital, is not perishable; therefore, the land value speculation bubble can be sustained whereas capital value speculation cannot. The power acquired by those who buy land depends crucially on the unique characteristics of land. The time-horizons are different in the land and capital markets. Land can be left idle for long periods because it is not perishable. The pressure on landowners in a contest of economic strength is far weaker than the pressure confronting labor and capital. Agricultural land will renew itself, thereby retaining its value, and because of this owners need not capitalize their assets for long periods. Land that

derives its value from locational advantages presents no problems whatever. But capital in the form of machines and buildings perishes and must therefore pay for itself within a limited period, during which the capitalist cannot avoid the costs of maintenance. There is no escape from this by transforming capital into cash, for unless it is employed—by being lent to others—it either depreciates in value as a result of inflation or does not earn an income (in which case it might as well be used for consumption).

Furthermore, there is a distinct difference in the ability to finance loans originally taken out to buy land or accumulate stocks. Except during deep recessions, banks will continue to lend money when the asset is land, even (or rather, especially) during uncertain times. This makes it possible to refinance loans used to buy land, which in turn enables the speculator to hold out for the better prices that must eventually come his way. The land speculation bubble can be sustained, but credit to help to finance inventories is much more difficult to obtain. Financing inventories, therefore, serves as a deterrent to stock accumulation far more regularly than does land investment.

Thus, we begin to see that land speculation is a unique economic phenomenon, deriving its power from the ability to play a passive, wait-and-see game and capable of yielding enormous fortunes for shrewd dealers who, as land monopolists, do not contribute anything to the wealth of the nation. This power in effect enables land speculation to inflict severe wounds on the active agents of the wealth-creating process: the workers and their accumulated savings (capital).

Land speculation is a two-dimensional activity. It is spatial. It entails the acquisition of control over a clearly defined piece of territory, such as land on the fringe of an urban area. It is also temporal. Purchases today are calculated to provide financial gain through resale in the future. Thus, the dealer has to be willing and able to hold onto land for a period of time, and sell when he calculates that prices have reached their most attractive levels.

Land speculation is an investment in an asset yielding an unrealistically high rate of return accompanied by a relatively low degree of risk. In this respect, it contrasts with speculation in other areas, such as security markets, where the risk of loss is much greater. For building an asset portfolio in the high-growth economy, land speculation offers potentially attractive opportunities.

## 2. Land Value Theory

Land has a twofold character. It is an input in the production of all goods and services, and it is an asset for saving. Corresponding to this twofold character, land provides two kinds of income streams to the owner—income (for example, rent) and capital gains—both of which are closely related. We take the word “speculator” to mean a person who buys and sells land for the sake of an anticipated capital gain. Speculators may also use land. Homeowners are typically

speculators in part, as are farmers and the owners of woodlands and pastures.

Classical economics focused on the first character of land—that is, as an input in production. Rent, which is the price of land services, is determined by supply and demand in the rental market. The function of rent is to allocate land services to valuable uses. Static efficiency can be ensured by a competitive rental market.

According to classical economics, the land price is the present value of the anticipated future rents from the land, discounted at an appropriate interest rate. If  $R_t$  is the rent anticipated on a plot in year  $t$ , and  $i$  is the interest rate, then the price of the plot in year zero,  $P_0$ , is

$$(1) P_0 = \sum_{t=0}^{\infty} \frac{R_t}{(1+i)^t}$$

If the anticipated rent,  $R$ , is a constant, this formula can be simplified to  $P_0 = R/i$ . For example, if the annual rent of a plot were 100, and the interest rate were 10 percent, then the price of the plot would be 1,000. It is sometimes observed that land values are very high relative to land rents at the time. In rapidly developing countries, the productivity of land and other inputs increase rapidly. Anticipated future increases in the land's productivity become capitalized in the land price, and the price becomes large relative to the current rent. If the annual growth rate of rent is  $g$ , then the price of the plot in year zero,  $P_0$ , becomes  $P_0 = (i - g)$ .

Land close to an urban center is the most valuable of all—usually one or two orders of magnitude more valuable than agricultural land. As urbanization proceeds and cities grow, high land values spread beyond the urban centers. Thus, high and rising land values are always associated with rapid urbanization. The extraordinarily high productivity of urban land arises from its proximity to related economic activities. Land in a central business district is extremely valuable because it is within walking distance of an enormous range of densely packed and related activities. The closest surrounding residential land is valuable because it provides access to central employment and shopping at low transportation costs.

Henry George (1946) pointed out, however, that the story does not end there. In a rapidly growing economy, where the swift and steady increase of rent lends credence to calculations of further increase, the confident expectation of increased prices produces a tendency for the land-owner to withhold land from use, in the expectation of higher prices. This confident expectation of the future enhancement of land values leads to speculation. In societies such as Korea's and Japan's, this mechanism operates with enormous power.

The same phenomenon may be observed in every rapidly growing city. If land of superior quality in terms of location were always fully used before resorting to land of inferior quality, no vacant lots would be left as the city grows. Nor could we find miserable shanties in the midst of costly

buildings. These lots, some of them extremely valuable, are withheld from use—or from the full use to which they might be put—because their owners, not being able or not wishing to improve them, prefer, in expectation of upward movement in land values, to hold them for a higher rate than could now be obtained from those willing to improve them. And, in consequence of this land being withheld from use, or from the full use of which it is capable, the margin of the city is pushed away even further from the center.

When we reach the limits of the growing city—that is, the actual margin of building, which coincides with the margin of cultivation in agriculture—we do not find the land purchasable at its agricultural-purpose value, as it would be were rent determined simply by present requirements. Instead, we find that, for a long distance beyond the city, the land bears a speculative value, based on the belief that it will be required in the future for urban purposes. To reach the point at which land can be purchased at a price not based upon urban rent, we must go very far beyond the actual margin of urban use (George 1946:257).

As a result, land speculation mania spreads outward, encompassing the countryside. Under these circumstances, land becomes an asset for saving rather than an input of production. To the landowner, expected capital gain from land becomes more important than rent.

In this situation, the demand for land is determined by investors' portfolio behavior, and the land price is determined in the asset market. Let current price of land be  $P$ , rent  $R$ , interest rate  $i$ , and expected capital gain  $\Delta P$ . In the assets market equilibrium without tax and uncertainty,

$$(2) \quad i = \frac{R}{P} + \frac{\Delta P}{P}$$

From equation 2, it is easy to derive equation 3,

$$(3) \quad P = \frac{R}{1+i} + \frac{P^e}{1+i}$$

where  $P^e$  represents the expected land price in the next period. This equation implies that the current price of land depends on the expected price of land in the future.

### 3. Land Speculation and Economic Recession

Henry George offered land speculation as a possible explanation for cyclical recessions. Land speculation, he said, was not the only cause of depressions, but it was "the great initiatory cause."

Land speculation operates at two different levels of intensity. Speculation causes

depressions by enabling people to demand prices that are extraordinarily high: in effect, the land monopoly demands a part of tomorrow's output today. The effect is to milk the returns to capital and labor. But this can only be tolerated up to a point—beyond which it becomes uneconomic to employ either capital or labor—and unemployment ensues. Second, land monopoly enables speculators to hold land idle in the expectation of future capital gains. This is the wait-and-see strategy. As a result, scarce land is withheld from production—an action that prevents new employment—and as a consequence of the contraction in supply, the level of rents of land in use is pushed up. This process has the effect of bankrupting some firms that would otherwise be profitable and competitive.

Henry George, however, used largely impressionistic evidence to support his theory. Hoyt (1950) discovered a regular 18-year cycle in U.S. historical data between 1818 and 1929, with close correlation between the trends in land values and in the business cycle.

We expect to see a rise in land values, for as national income increases, so does the surplus, or economic rents. Income depends on the functioning of the labor and capital markets, and a downturn in national income results in land values. This is the popular view.

Harrison (1983), however, found in Hoyt's data that the peak in land values is reached 12 to 24 months before the economic recession. That is, the downturn in land values precedes the decline in general economic prosperity. He postulates a transmission mechanism, by which antecedent behavior in the land market diffuses itself into the whole economy. In the construction industry, if land costs too much because of speculation, construction is curtailed, thereby decreasing the activity throughout the economy.

### III. EVOLUTION OF LAND PROBLEMS IN KOREA

#### 1. Current Status of National Land Use

Korea is an extremely crowded country, with a total land area of about 99,222 kilometers and a population of 42 million people. The population density of more than 427 people per square kilometer is greater than any other relatively populous country (that is, with at least four million people), except for Bangladesh and Taiwan. Korea, like Japan, is mountainous and only about one-fifth of its land is suitable for agriculture or urban uses. By contrast, Belgium and the Netherlands have comparable population densities but flat terrain, and most land there is suitable for agriculture or urban uses.

Land in Korea can be divided into four categories. Forested land occupies 66.2 percent of the total land area, agricultural land 22.6 percent, and land for other nonurban uses (including water surfaces) 7.7 percent. This leaves only about 4,000 kilometers (4.0 percent) for urban uses such as residential, industrial, and public

[Table 1] Land area by type of use, 1987

Type of use	Total land area	
	km <sup>2</sup>	%
Forest	65,651	66.2
Agricultural	22,441	22.6
Industrial	188	0.2
Residential	1,854	1.8
Public use	1,966	2.0
Other uses	7,122	7.2
<b>Total land area</b>	<b>99,222</b>	<b>100.0</b>

Source: Korea Research Institute for Human Settlements (1988).

purposes (including roads, parks, and schools). This economically valuable land can be divided according to use: 1.8 percent residential, 0.2 percent industrial, and 2.0 percent public use (Table 1).

## 2. Land Systems

Basically, the most efficient use of land can be realized through the mechanisms of the competitive free market. However, such reliance on the free market crumbles in circumstances where public goods and externalities play an important role. The free competitive market's functioning for dynamic efficiency in land use is unreliable, especially where speculation is involved. These market failures in land use provide a rationale for government intervention in the land market.

"Land system" as used in this paper means a series of laws for government intervention in the private ownership of land, including: (1) limitations on exercising the right to use land, (2) taxation on the right to earn from land, and (3) expropriation of the right to dispose of land. Remarkable progress has been made since 1961 in the institutional arrangements for the control of land use in Korea. Various laws necessary for the development of cities, regions, and public lands have been enacted. The City Planning Law was enacted in 1962 to accommodate urbanization in a planned and orderly manner, and the National Land Use Planning Act was promulgated in 1963 for the purpose of advancing planned land use throughout the country. The first National Land Use Plan, implemented from 1972 to 1982, extended to the entire country the restrictions on land use that were already applicable to urban areas.

A reasonable land use plan is the indispensable prerequisite to land policy. Its mechanism is the control of land use—that is, the government prohibits specified forms of land use within designated areas. In this way, land use can be limited to a certain extent. On the other hand, neither the City Planning Law nor the National Land Use Planning Act has the power to positively encourage specific forms of land use. Because the control system of land use cannot advance the conver-

sion of forest land and farmland into urban land, it cannot effectively control land prices. The National Land Use Planning Act provides for a system of designated, price-controlled areas for freezing land prices. However, it is not unrealistic to designate as a control area all of the suburban zones where demand for land is strong. Even if such an area were desingated, the result would be widespread black marketeering.

While control over land use may deter undesirable use of land, land expropriation achieves desirable use. The Eminent Domain Law was enacted in 1962 mainly to facilitate construction of industrial sites, and the Land Readjustment Project Law was enacted in 1966 to promote urban land development. In the case of eminent domain, private land ownership is terminated with compensation paid in exchange, while a land readjustment project offers substitute land in exchange for the termination of private land ownership.

Various kinds of taxes are imposed on land. The acquisition tax is imposed on newly acquired land. The tax base is the declared price of land, and the basic rate is 2 percent. (For golf courses, high-class residences, and corporate land used for nonbusiness purposes, the rate is 15 percent.) A registration tax is also imposed. The tax base is based on the declaration of the person who registers. But, in the case where the tax base is not reported, or the value at the time of acquisition is less than the "standard value" determined by the government each year, the standard value at the time of registration is deemed to be the tax base. In actual practice, the standard value usually serves as the tax base. The basic tax rate is 3 percent, but a preferential tax rate of 1 percent is applied to farmland. The heavy taxation on land transactions has been criticized as disruptive of the smooth functioning of the land market.

Until 1990, a property tax was imposed annually on the landowners listed in the land tax registers. The tax base was the current value of the land, and the tax rate ranged from 0.1 percent for farmland and woodlands to 5 percent for land used for golf courses and high-class places of amusement. A progressive rate, depending on the area and ranging from 0.3 to 5.0 percent, was applied to household lots. In addition, an excessive landholding tax was imposed on individuals and corporations in cases where land was not used directly for the respective owners' business purposes. These two taxes were superseded in 1990 by the Global Land Value Tax.

As a kind of capital gains tax, the Temporary Anti-Speculation Tax on Real Estate was enacted in 1969 to curb land speculation along the route of the Seoul-Pusan Expressway, which was planned in 1969 and completed in 1970. This tax was incorporated into the income tax in 1975, and subsequently the real estate capital gains tax has been subject to frequent revisions. The tax base in the current tax system is real capital gain—that is, the transfer amount, less necessary expenses (including those for land improvement and transfer), less appreciation at the rate of increase of the wholesale price index, less a deduction in the amount

of 1.5 million won. The deduction and the appreciation, however, are not allowed in cases where the land has been held for less than two years or held without registration. In cases of long-term holding, a special deduction is applicable: 10 percent of the capital gain can be deducted for land held between five and ten years and 30 percent for land held more than ten years. Progressive tax rates from 40 to 60 percent are applied to taxable capital gains.

The capital gains of a corporation are included in the ordinary taxable income for the corporation tax, then the Additional Capital Gains tax is specially assessed and added to the amount of ordinary corporation tax. Consequently, the capital gains of a corporation from land acquired for nonbusiness purposes is subject to double taxation. The tax base is defined similarly to individual income tax, and the tax rate is 25 percent.

The Inheritance Tax is levied on the legal heir, and the calculations are based on the total estimated value of the inherited land less deductions, debt, funeral expenses, and public imposts. Various deductions are allowed: a basic deduction in the amount of 10 million won, a personal deduction of 40 million won for a spouse, and a 10 million won deduction for each child. A larger deduction in the amount of 110 million won is allowed for farmland, grasslands, and forest land. A progressive rate scheme, ranging from 5 to 55 percent, is applied to the tax base defined.

### 3. Trends in Land Values

Since the mid-1960s, the rapid increase of land prices has emerged as a serious economic social and political problem in Korea. Thanks to the successful results of economic development plans, rapid industrialization proceeded. This rapid urbanization has caused the demand for land for urban uses such as industrial sites, residential sites, and public sites to speedily increase; thus, land prices have risen dramatically around industrial complexes and in the cities and their surrounding areas, where there is heavy pressure for development.

It is not possible to construct aggregate land price indexes for all Korean land. But the Korea Appraisal Board has conducted land price surveys in urban areas since the 1960s, and the Ministry of Construction has conducted land price surveys across the country since 1975. The rate of increase in land prices and other major economic indicators for Korea's 12 largest cities are presented in Table 2 for the period 1963-89. The rate of increase in the consumer price index and the growth rate of GNP are presented for comparison. Land prices have risen rapidly indeed. Land prices for Korea's 12 largest cities between 1963 and 1989 increased by 618 times, whereas GNP in current prices increased by 386 times. This represents a compound average annual growth rate of 23.8 percent.

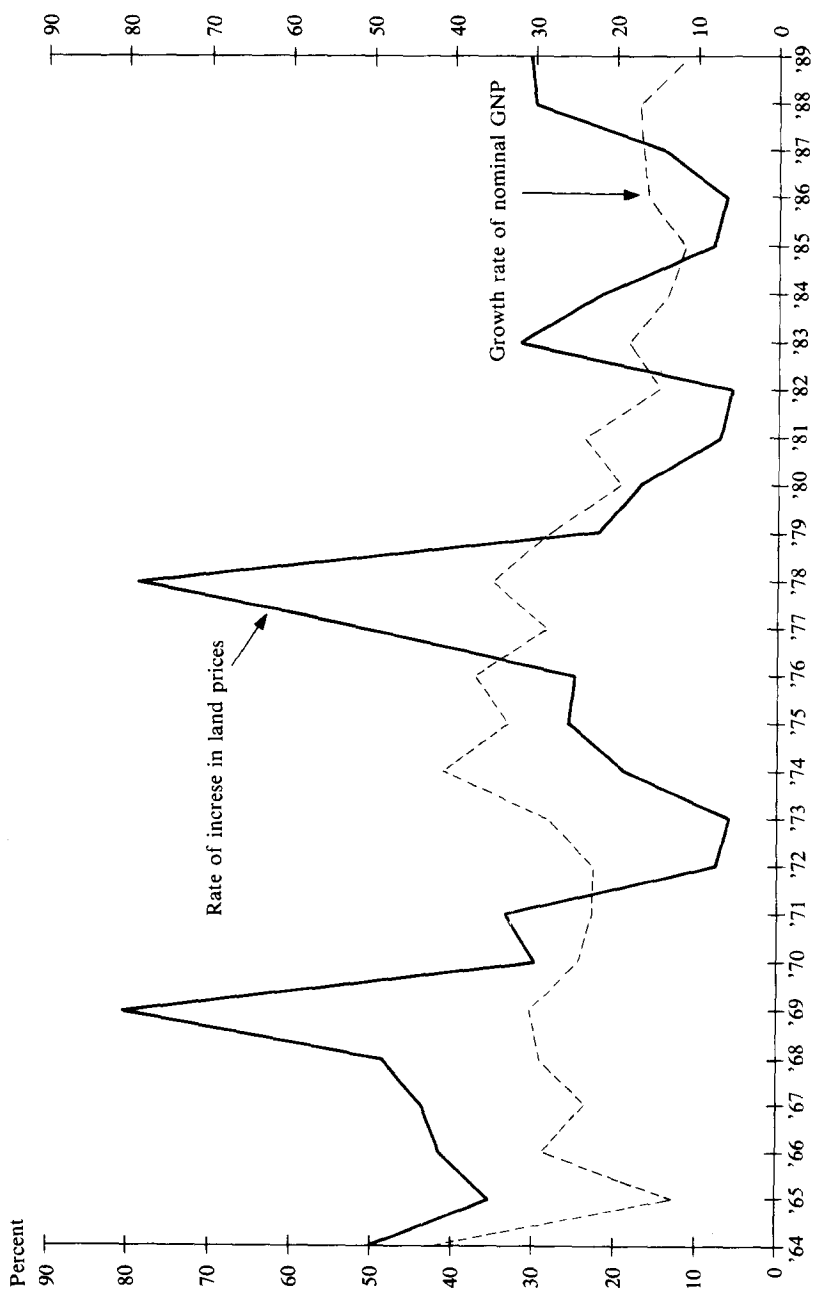
Part of this extraordinary gain is, of course, the result of inflation. In 1989 the wholesale price index was about 18.4 times its 1963 level, representing an average

[Table 2] Annual rates of increase in land prices, GNP, and wholesale prices, 1963-89

Year	Rate of increase in land price index in major cities (%)	GNP growth rate (%)	Rate of increase in Wholesale Price Index (%)	Rate of increase in Consumer Price Index (%)	Nominal GNP growth rate (%)	Urbanization (% of total population)	Growth rate of money supply (M2)	Rate of increase in permitted floor area in building construction (%)
1963	na	9.1	20.5	na	41.4	40.0	7.4	18.5
1964	50.0	9.6	35.0	na	42.4	41.0	14.8	21.6
1965	35.3	5.8	9.6	na	12.5	41.0	52.7	24.0
1966	41.4	12.7	8.8	11.6	28.7	42.0	61.7	15.8
1967	43.6	6.6	6.8	10.7	23.5	44.0	61.7	30.6
1968	48.5	11.3	3.1	10.8	29.0	45.0	72.0	31.1
1969	80.7	13.8	6.5	12.3	30.4	47.0	61.4	24.0
1970	29.7	7.6	9.1	15.4	24.5	50.0	27.4	12.7
1971	33.4	9.1	10.6	14.0	22.7	50.0	20.8	-10.8
1972	7.5	5.3	12.1	11.7	22.6	52.0	33.8	-9.5
1973	5.8	14.0	6.7	3.0	28.2	54.0	36.4	90.5
1974	18.7	8.5	42.3	24.3	41.2	56.0	24.0	1.9
1975	25.5	6.8	26.5	25.4	33.1	57.0	28.2	9.1
1976	24.9	13.4	12.2	15.3	37.3	59.0	33.5	-2.4
1977	50.0	10.7	9.0	10.0	28.3	61.0	39.7	24.2
1978	79.1	11.0	11.6	14.5	35.0	63.0	35.0	37.9
1979	22.0	7.0	18.8	18.2	28.4	65.0	24.6	-10.8
1980	17.0	-4.8	38.9	28.7	19.3	68.0	26.9	-6.5
1981	7.1	5.9	18.8	21.6	23.9	69.0	25.0	-19.0
1982	5.6	7.2	4.4	7.1	14.6	70.0	27.0	42.9
1983	31.7	12.6	0.2	3.4	18.3	72.0	15.2	33.2
1984	21.6	9.3	0.8	2.3	13.5	73.0	7.7	-0.3
1985	7.8	7.0	0.9	2.5	11.4	74.0	15.6	-3.4
1986	6.4	12.9	-1.5	2.8	16.0	75.2	18.4	13.9
1987	13.9	12.8	0.5	3.0	16.7	na	19.1	10.2
1988	29.8	12.2	2.7	7.1	17.0	na	21.5	24.6
1989	30.5	6.5	1.1	5.2	11.0	na	11.8	17.7

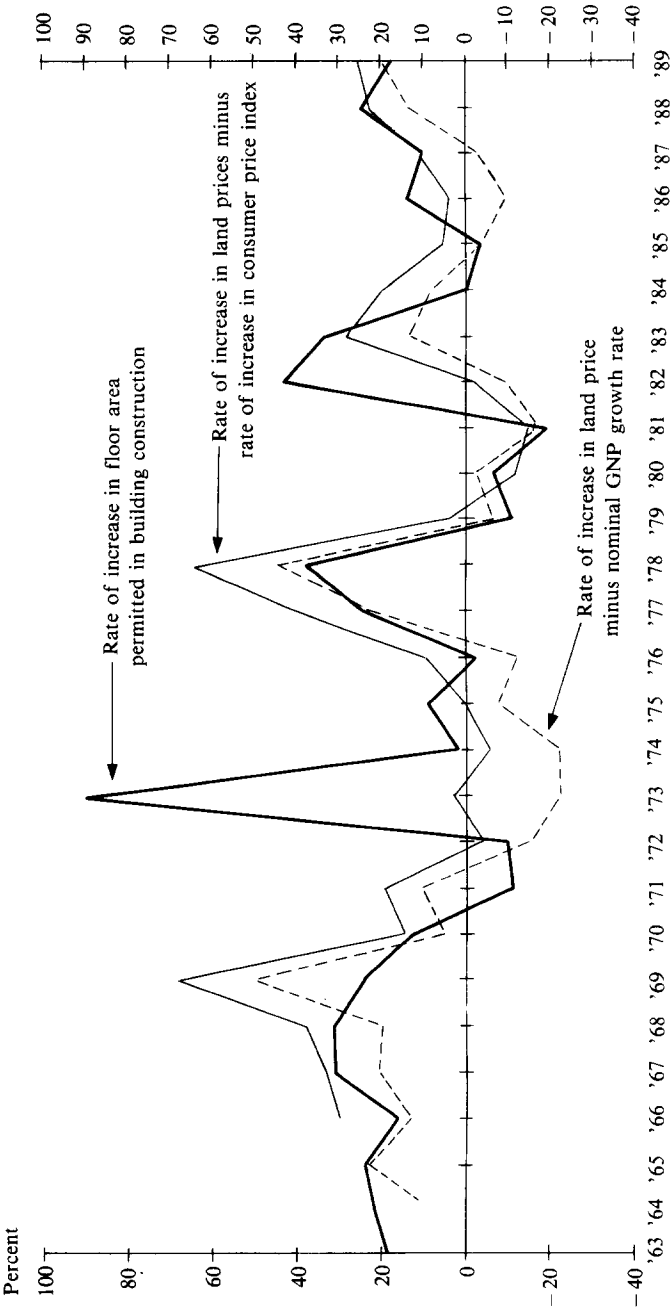
Sources: EPB, *Korea Statistical Yearbook* (various issues), EPB, *Monthly Economic Statistics* (various); Ministry of Construction (various issues); Korea Appraisal Board (various issues)

na = not available.



[Figure 1] Land price increase versus GNP growth rate, 1964-89

Source: Table 2.



[Figure 2] Permitted floor area and land price versus GNP and the consumer price index, 1963-89

Source: Table 2.

[Table 3] Land values and business cycles, 1969-88

Peaks in the rate of increase in land prices	Building cycle peaks	Economic recessions
1969	1969	1970
1978	1978	1979
1983	1982	1984
1988	1988	1989

compound inflation rate of 10.7 percent. But these data imply that the average real rate of return on landholding was 13.1 percent in urban Korea during the 27-year period. And this return is in addition to annual rents that would be paid for the use of the land. The implication is that holding urban land must have been one of the most profitable investments in Korea during the period of rapid growth.

The Korean economy has experienced ten-year cycles in land speculation three times since 1962. The annual rates of increase in land prices for the major cities and the annual growth rate of GNP at current prices are presented in Figure 1. The difference between these two and the difference between the annual rate of increase in land prices and the consumer price index for all cities are presented in Figure 2. The Korean experience of land speculation shown in Figure 1 seems to support Henry George's hypothesis on the cause of recession, as illustrated in Table 3. Figures 1 and 2 show that the time span from 1962 to 1989 can be divided into three periods: the first phase (1962-69), the second phase (1970-78), and the third phase (1979-89).

**First phase, 1962-69.** During the first period (1962-69), the annual increase rate of land prices was above 35 percent. Moreover, the difference between the annual rate of increase in land prices and that of the consumer price index was greater than 25 percent. The rate of increase in land prices was much higher than the growth rate of GNP at current prices in every year. Since the annual price rise of 35 percent or more was much higher than the average commercial bank interest rate, real estate was generally accepted as the most profitable investment whenever surplus funds were available. During this period, the myth of profit-bearing land became deeply rooted in the thinking of Koreans, and a fetishism about land dominated the Korean mentality. The big companies, like their Japanese counterparts, searched for land more because of this fetishism than because of actual need.

The entry of the Korean economy into the high-growth stage in the mid-1960s witnessed the transfer of the labor force from primary industries to secondary and tertiary industries. This interindustrial labor force transfer gave rise at the same time to an interregional population movement. There was a continuous and intensive population influx into the Seoul and Pusan areas. Rapid urbanization was accelerated by the rapid growth of GNP, particularly of urban-oriented manufac-

turing and service sectors that are relatively labor-intensive. The urban share of the population soared from 36 percent in 1960 to 50 percent in 1970. Rapid urbanization has had a strong impact on the demand for land in urban areas. Land prices in urban areas rose rapidly, but land prices in rural areas fell in real terms.

The military government under President Park Chung Hee adopted a fairly expansionary policy. By the middle of 1962, bank credit and the money supply expanded greatly, and the government became concerned about potential inflation, although prices remained remarkably stable. In response, the government carried out monetary reform that both changed the denomination of the currency and froze all bank deposits. This reform triggered the shift from holding financial assets to the holding of real estate. Land speculation started, mainly in the big cities, and the rate of increase in land prices for the major cities reached 50 percent in 1964.

During the 1960s, the development of the Korean economy was also characterized by the primitive accumulation of capital. The major bottleneck to economic growth at that time was the shortage of investment financing. The huge fund created by money issue and the massive inflow of foreign capital (which resulted from the foreign loan guarantee system and the treaty normalizing relations with Japan) was rationed to a few corporations by the government. The annual increase rate of the broad money supply (M2) was about 60 percent between 1965 and 1970.

The government used the financial system to provide incentives to exporters and generally controlled the allocation of both foreign and domestic credit to support those investments considered most conducive to development. Exporters received automatic financing for raw material and production costs. The funds made available to exporters often exceeded their current needs, and a portion of the funds could be reloaned in the unorganized money markets at interest rates of 30 percent per annum, or invested in land speculation. Foreign loans, the term loans of the special banks, and even many of the loans of the commercial banks carried interest rates that were much lower in nominal terms than the rates prevailing in the unorganized money markets and were often negative in real terms. The government kept loan interest rates much below equilibrium levels and intervened extensively in allocation decisions. The reasons for this seem to have been both economic and political. Rapid growth of domestic and foreign loans in the latter half of the 1960s added to their importance as instruments of primitive accumulation of capital.

The big corporations, with their privileged access to credit, both domestic and foreign, bought land on the urban fringe, particularly around Seoul and Pusan. Rapidly rising land values brought windfall profits to landowners in urban areas and attracted savings away from productive investment. Land speculation has been an important chain of primitive accumulation of capital process since the 1960s. Since the annual percentage rise of land prices was much higher than the bank rate, the big corporations borrowed as much as possible from banks to buy land, and they expected large profits. The greater the landholdings, the greater the

guarantee of large future profits. At the same time, the banks had a traditional preference for accepting land as the asset for loans. This preference made it possible to refinance loans used to buy land. For these reasons, private companies spared no effort in expanding their landholdings. Consequently, speculation-based demand invited more speculation and the ever-increasing demand surpassed the limited supply of urban land, causing prices to skyrocket.

The rate of increase in land prices in the major cities was more than 40 percent during the second half of the 1960s. The land speculation peak in 1969 was initially caused by the announcement of construction plans for the Seoul-Pusan Expressway and the development plan for the southern part of Seoul. The government adopted the Anti-Speculation Tax in Real Estate in 1967, which was a kind of capital gains tax on real estate. This law, however, was not as effective as expected.

**Second Phase, 1970-78.** Korea experienced an economic downturn in 1970, before the oil crisis struck in 1973. Land speculators were caught in the classic squeeze of having to finance the large loans that they had taken out to buy land. The bubble of inflated land prices burst, and the big corporations were on the verge of insolvency. The interest rate in the unorganized money markets had become unsupportably high due to excessive borrowings for purposes such as speculation in land.

Korean landowners, like their counterparts in Japan who were rescued by government and central bank "lifeboat" operations, were effectively insured against the costs of their own misdeeds. Land values were held buoyant, instead of becoming the most seriously depressed of all factor prices.

As predicted by George's theory, the peak in the rate of increase in land prices in 1969 was followed by economic recession. The economic growth rate was 7.6 percent in 1970—much lower than the 13.8 percent rate of 1969. Monetary expansion and the rate of increase in the consumer price index slowed during the early 1970s. Also, the rate of increase in land prices in urban areas was 7.5 percent in 1972 and 5.8 percent in 1973. Land prices in real terms fell by 4.2 percent in 1972 and 5.6 percent in 1974. The government came forth in the summer of 1972 with the August 3rd Emergency Measures, which provided relief to large business interests at the expense of the unorganized money market. The government also tried to promote the development of the securities markets and finance companies. In 1973 the government initiated an aggressive approach by requiring certain companies, identified by the Ministry of Finance, to go public. The stock market boomed in both 1972 and 1973. During that period, securities and short-term bills were probably competitive with urban land as an alternative to investors.

During the 1970s the emphasis of industrialization policy was switched to the promotion of heavy industry. The southeastern coastal region emerged as the major growth area during this period, and the rate of growth of Seoul was outstripped by that of several cities in the region (such as Ulsan, Masan, and Pohang),

where the government constructed ports and other infrastructure.

Land speculation boomed again in the late 1970s. The rate of increase in land prices in major cities was 50 percent in 1977 and 79 percent in 1978. Land prices in Seoul increased by 136 percent in 1978. Speculation in apartments emerged at this time. Land speculation began to spread beyond the southeastern coastal region.

The national land price increased by 34 percent in 1977 and by 50 percent in 1978. Land speculation during that period was triggered by a sharp increase in the money supply, resulting from domestic money creation to support heavy industry as well as the inflow of foreign exchange from the Middle East construction boom. The government adopted the August 8 measure in 1978, which raised tax rates on capital gains from real estate.

**Third Phase, 1979-89.** The so-called "miracle" economy was unable to avoid the distress of the late 1970s, which was officially attributed to the OPEC oil price explosion. Again, the land speculation peak in 1978 was followed by economic recession. Therefore, with the slump in construction that occurred a full 12 months before the oil price rise, the Korean economy was destined for a recession of severe proportions regardless of the decisions taken by the oil sheikhs. The economic growth rate slowed from 13.8 percent in 1978 to 7.6 percent in 1979, and the Korean economy experienced negative economic growth in 1980. Urban land prices fell in real terms by 11.7 percent in 1980, 14.5 percent in 1981, and 1.5 percent in 1982.

Noting that land prices are already extraordinarily high in the big cities, the government correctly predicted that a rise in land prices would make it difficult for people to own detached houses. The declining demand associated with high prices was in turn linked to a downturn in the building industry. Expansion of housing investment is necessary to provide demand for stable economic growth.

In the early 1980s, efforts were made to boost the overall economy by stimulating the housing industry through legislation, such as the June 26 measure, the January 4 measure, the May 18 measure, and the June 28 measure. The mixture of tax policies and large-scale public investment in housing (designed to restimulate the depressed economy) ensured the premature recovery of land prices, which started accelerating upward again. Land speculation came to the fore again around late 1982. Land prices in the major cities increased by 28.3 percent and those in Seoul by 54.3 percent in real terms in 1983.

A series of speculation control measures was again adopted, including: the December 22 Speculation Control Measure at the end of 1982; the February 16 measure in 1983; the Notice of Specially Designated Areas in February and March 1983; implementation of bond bidding for apartment houses in 1983; and the April 18 Overall Land and House Measure and Land Transaction Report System for the Daeduk Research Complex in Choongchung Nam-do Province in 1985.

There was a land speculation recession between 1984 and 1987—land prices in urban areas remained stable but rents rose rapidly, preparing the way for further land speculation in 1988. The rapid growth of exports and the large foreign trade

surplus between 1986 and 1988 caused a huge amount of foreign currency to flow suddenly into Korea, thereby causing excessive liquidity in the Korean money market. This excessive liquidity triggered land speculation around 1988, which was accelerated by the government's development plan for the southwestern region of the country and by the Olympic Games in Seoul. The rate of increase in land prices in urban areas was 30 percent in both 1988 and 1989. This most recent bout of land speculation has spread across the entire country. The national average rate of increase in land prices has been higher than any registered in urban areas since 1986. In particular, land speculation has centered around the southwestern coastal region, which is expected to be developed as a new industrial site. The government adopted the August 10 measure to control land speculation in 1988, but the land speculation boom continued until mid-1989.

#### 4. National Land Values

Recently the Korea Land Development Corporation estimated the market value of land in Korea as of October 1988 (Table 4). Non-marketable lands such as streams, lakes, rivers, roads, and parks are excluded from this estimate. A total of 14,038 plots were drawn by the multistage stratified random sampling method according to category use and administrative district. Each sample was evaluated using the market data approach which was then used to calculate total land values by multiplying sample average land values by total land area in each category.

The market value of Korea's land was estimated to be 936,931 billion won in August 1988. By comparison, Korea's 1988 GNP was 123,579 billion won. Thus Korea's total land value is about 7.58 times annual GNP. A comparable estimate for the United States concludes that the market value of U.S. land was 0.7 times U.S. GNP. Land value in the United Kingdom was estimated to be double the annual GNP. Land in Japan was worth about 6.5 times annual GNP in 1988.<sup>1</sup>

Land values in relation to GNP vary greatly among countries. An explanation for these differences is the relative scarcity of land. Korea and Japan are densely populated countries, whereas the United States is among the most land-rich of industrialized countries. But this cannot be the entire explanation. In the United States, it is reasonable to assume that land rents are capitalized into land values at an interest rate of about 10 percent. That assumption and the fact that land values are about 70 percent of GNP imply that a constant land rent would be about 7 percent of GNP according to Equation (1). That is very close to the conclusion of the best estimate of land rents in the United States.

Ten percent is a low interest rate to assume for capitalizing land rents in Japan and Korea. Even that low rate would imply that land rents are 76 percent of GNP in Korea and 65 percent of GNP in Japan. It is not possible to check this against the GNP accounts because land rents are not reported separately from other GNP components. But the Japanese figure of 65 percent of GNP exceeds the percen-

[Table 4] Land values by category and area, 1988

Area and category	Total area		Average price (10 <sup>3</sup> won/m <sup>2</sup> )	Total land value	
	(km <sup>2</sup> )	(%)		(10 <sup>9</sup> won)	(%)
<b>Total</b>	<b>92,223</b>	<b>100.0</b>	<b>10.62</b>	<b>936,931</b>	<b>100.0</b>
Residential	1,485	1.6	261.42	388,354	41.5
Commercial	170	0.2	924.34	156,721	16.7
Industrial	452	0.5	105.84	47,886	5.1
Forest	8,215	8.9	15.52	127,520	13.6
Nonurban	81,901	88.8	2.64	216,448	23.1
<b>Six big cities</b>	<b>2,317</b>	<b>2.4</b>	<b>210.82</b>	<b>488,470</b>	<b>52.1</b>
Residential	596		499.39	297,846	
Commercial	66		1,438.84	95,582	
Industrial	131		243.84	31,875	
Forest	1,448		42.88	62,109	
Nonurban	75		14.09	1,058	
<b>Medium and small cities</b>	<b>4,567</b>	<b>5.1</b>	<b>43.99</b>	<b>186,585</b>	<b>19.9</b>
Residential	479		161.40	72,110	
Commercial	63		88.16	52,101	
Industrial	225		57.05	12,904	
Forest	2,658		16.47	41,932	
Nonurban	1,142		6.60	7,536	
<b>Rural areas</b>	<b>85,339</b>	<b>92.5</b>	<b>3.07</b>	<b>261,874</b>	<b>28.0</b>
Residential	410		44.82	18,397	
Commercial	41		222.57	9,038	
Industrial	96		32.26	3,106	
Forest	4,108		5.72	23,478	
Nonurban	80,684		2.58	207,853	

Source: Korea Appraisal Board (various issues).

tage of all property income in GNP, and a large proportion of property income is clearly derived from produced capital. The Korean figure is even higher than the percentage of all property income in Korean GNP, but it seems very unlikely that land rents are as much as 76 percent of Korean GNP. A possible resolution of this paradox may be that the forecasted rapid future growth of land rents has been capitalized into land values in Japan and Korea. This could cause land values to be high relative to land rents. Thus, the expectation of continued rapid economic growth can be an important explanation of the high ratio of land values to GNP in Korea and Japan. But even this cannot be the entire explanation. It may be that classical economic theory on land price is not applicable to Korea and Japan. Are people in Korea and Japan irrational in expecting the future stream of land rent?

In Korea, as elsewhere, urban land prices are much greater than rural land prices. The data in Table 4 imply that urban land in Korea's six largest cities is on average

worth 69 times as much as rural land. In fact, of total land, the 2.4 percent that is in urban areas accounts for more than 52 percent of total land value. One reason for this is that in urban activities, structures and other improvements can be substituted for land much more easily than in agriculture and other rural activities.

Table 4 also shows that the average price of residential land in the six largest cities was 499 thousand won per square kilometer (U.S.\$3 million per acre). This is certainly much higher than the average price of urban residential land in the United States. A traditional urban single-family Korean home might be on a plot of about 50 *p'yong* ( $1p'yong = 3.31m^2$  or 3.95 square yards). The value of such a plot was about 83 million won (U.S.\$120,000) in 1988. This compares with an average wage income of about 5.4 million won in the six largest cities. The figures imply that the value of a residential plot is equal to about 15 years of wage income and 45 years of average savings, assuming the average propensity to save is one-third.

## 5. Concentration of Land Ownership

In most Western societies, land is more equally distributed than any other important asset. The same was true in Korea until the early 1960s, when most farmland was in the hands of owner-operators as a result of land reform carried out during the previous decade. Most housing in the early 1960s was owner occupied, and land was more widely held by the populace than financial assets, including corporate assets. Under these conditions, rapid increases in land values had the effect of decreasing the concentration of wealth. The situation, however, has changed dramatically. Now the ownership of land in Korea is highly concentrated among a few wealthy owners.

Rapid increases in land values in the process of the cyclical land speculation have made the rate of return on investment in land much higher than that on investment in securities, on profits from manufacturing enterprises, or on any other investment. Land has become the most profitable asset, rather than an input to production or for housing.

Not everyone, however, can get large fortunes from investment in land. A relatively large initial investment often is required to buy land (lumpiness). Successful speculation in land requires, moreover, accurate information on the government's regional development plans. Thus, a few persons with access to the requisite funds and information—both of which have been controlled by the government—were able to obtain large fortunes from investment in land. Ordinary persons, however, could not gain access even to bank financing at low interest rates. The government has provided only minimal financing of mortgages. Bank financing has amounted to less than 5 percent of the value of homes purchased in urban areas. The extreme scarcity of bank financing for the purchase of dwellings has made it very difficult for families to buy their own homes.

**[Table 5]** Distribution of land ownership by individuals, 1988

Ownership category	Percentage of total area	Average area per person (m <sup>2</sup> )
Top 5%	65.2	86.7
I Top 10%	76.9	51.1
II 10-20%	10.8	7.2
III 20-30%	5.4	3.6
IV 30-40%	3.2	2.1
V 40-50%	1.9	1.2
VI 50-60%	1.0	0.7
VII 60-70%	0.5	0.4
VII 70-80%	0.3	0.2
IX 80-90%	0.2	0.1
X 90-100%	0.0	0.04
<b>All owners</b>	<b>100.0</b>	<b>6.7</b>

Source: Korea Research Institute for Human Settlements (1988).

Housing development has been largely left to private enterprise, which relies on its own financial resources. As a result, urban landlordism has become widespread. Urban landlords are potential land speculators who seek capital gains rather than rents. This process has accelerated in the course of cyclical land speculation since the mid-1960s. The increases in land values were mostly limited to a few big cities in the 1960s, but today they extend from one end of the country to the other. Much of the speculation involves land earmarked by the government for new towns and factory sites. The government's regional development plans renewed efforts by speculators. Many people believe that politicians and the bureaucracy, who have access to information on regional development plans, gain

**[Table 6]** Distribution of land ownership by category of use, 1988

Category	Percentage of total land area owned by:		
	Top 5% of owners	Top 20% of owners	Top 40% of owners
Residential	59.7	72.5	11.5
Industrial	35.1	53.1	na
Dry field agriculture	29.5	69.8	1.6
Paddy fields	31.9	72.7	0.4
Forest	84.1	97.7	0.1
Miscellaneous	61.3	85.7	1.9
Other uses	64.8	81.4	4.8
<b>Total land area</b>	<b>65.2</b>	<b>87.6</b>	<b>1.0</b>

Source: Korea Research Institute for Human Settlements (1988).

na = not available.

large fortunes from the land booms. Many privileged companies and individuals poured huge funds into land speculation. As a result, much of the country's total land area is now owned by a few wealthy people.

Land ownership in Korea can be divided into three categories: 24.3 percent of land is owned by the public sector, 4.1 percent by corporations, and the remaining 66.1 percent by individuals (10,801 thousand persons). In 1988 the top 5 percent of all landowners owned 65.2 percent of the total area owned by individuals, and the top 10 percent owned 76.9 percent (Table 5). In particular, the concentration of land ownership is strong in residential/commercial land and forest land that is expected to be developed for urban uses in the future. Thus, recent land speculation has concentrated on these lands. As shown in Table 6, the top 5 percent of landowners account for 84.1 percent of the total forest area and for 59.7 percent of the residential and commercial area. Table 7 shows that land ownership by the top 10 percent ranges from 66 to 82 percent of the total urban area in each of the six largest cities. This implies that land ownership is more concentrated in urban areas, where land prices are higher.

Most households in the big cities do not own any land at all. Only 28.1 percent of households in Seoul own land. The share of households that own land is 33.1 percent in Pusan, 38.3 percent in Taegu, 30.1 percent in Incheon, and 69.7 percent

[Table 7] Distribution of land ownership by city, 1988

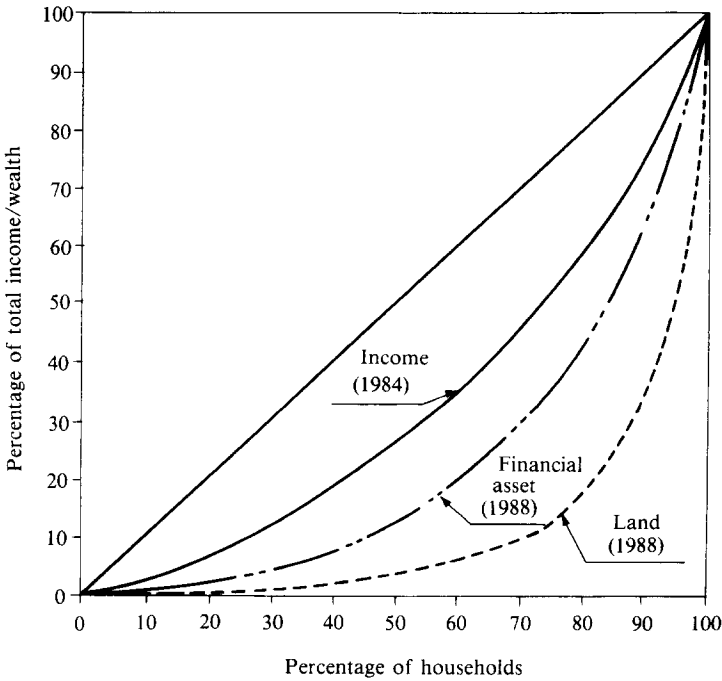
City	Percentage of total land area owned by:	
	Top 5% of owners	Top 10% of owners
Seoul	57.7	65.9
Pusan	72.3	81.4
Taegu	72.6	82.4
Incheon	64.2	77.8
Kwangju	55.7	69.4
Taejon	65.1	76.4
<b>Total land area in Korea</b>	<b>65.2</b>	<b>76.9</b>

Source: Korea Research Institute for Human Settlements (1988).

[Table 8] Gini coefficient of land ownership in big cities

City	Percentage of households owning land	Gini coefficient
Seoul	28.1	0.911
Pusan	33.1	0.946
Taegu	38.3	0.944
Incheon	30.1	0.937
Kwangju	69.7	0.838

Source: Korea Research Institute for Human Settlements (1988).



Source: Kang (1989).

[Figure 3] Lorentz curves

in Kwangju. The Gini coefficient of the distribution of the landownership in the big cities is 0.911 in Seoul, in Pusan, 0.937 in Inchon, and 0.838 in Kwangju (Table 8). Figure 3 shows that land ownership is much more concentrated than is the ownership of financial assets and the size distribution of income in Korea. Thus, rapidly rising land values since the 1960s have caused income distribution to become more unequal in Korea. Large fortunes from land speculation resulted in a large portion of social wealth being placed in the hands of a few landowners, who do not contribute anything to the wealth of the nation.

Astronomical amounts of wealth have been transferred to a few landowners from the active agents of the wealth creating process—the workers and their current and future accumulated savings—in the form of capital gains.

Table 9 presents annual capital gains from land due to the increase in land prices. This is calculated based on the total marketable land value, shown above, and the rate of increase in national land prices, estimated by the Ministry of Construction. Table 9 also shows the ratio of capital gains to GNP in current prices. In the most recent phase of the land speculation cycle (1979-88), the ratio was 0.98 on average. This indicates that a few landowners have milked the savings of persons who need homes or factory sites to an extent almost equivalent to the annual GNP.

[Table 9] Capital gain from land, 1975-89

Year	Rate of increase in land values (%)	Capital gain (10 <sup>12</sup> won) (A)	GNP (10 <sup>12</sup> current won) (B)	Ratio $\frac{A}{B}$
1975	27.0	24.9	10.1	2.5
1976	26.6	31.2	13.8	2.3
1977	33.6	49.8	17.7	2.8
1978	49.0	97.1	23.9	4.1
1979	16.6	49.1	30.7	1.6
1980	11.7	40.3	36.7	1.1
1981	7.5	28.8	45.2	0.6
1982	5.4	22.3	52.2	0.4
1983	18.5	80.7	61.7	1.3
1984	13.2	68.1	70.1	1.0
1985	7.0	41.0	78.1	0.5
1986	7.3	45.6	90.5	0.5
1987	14.7	98.7	105.6	0.9
1988	27.5	211.7	123.6	1.7
1989	30.5	299.4	137.1	2.2

Sources: Korea Appraisal Board and Ministry of Construction (various issues).

#### IV. PROPOSAL FOR INSTITUTIONAL REFORMS

Cyclical land speculation in Korea accelerated the primitive accumulation of capital and thus functioned as a chain of rapid economic growth in the early stage of economic development—that is, mainly in the 1960s and 1970s. The big corporations, which had access to credit rationed by the government at low interest rates, bought land on the urban fringes, and rapidly rising land values brought windfall capital gains to the corporations. Cyclical land speculation as well as inflationary money creation promoted the concentration of social wealth into a group of big corporations, which helped to overcome the major bottleneck to economic growth at that time—the shortage of capital. On the other hand, the rapid rise in home prices, due to the rapid rise in land prices, forced people in urban areas to save more of their incomes to buy homes and thus promoted private savings. Therefore, the cyclical land speculation of the 1960s and 1970s may be viewed as an important mechanism for rapid economic growth in Korea.

The situation has changed dramatically, however, and the shortage of capital is no longer a major constraint to economic growth. Instead, extreme centralization of capital has created a variety of economic and social problems. The legitimization crisis—the most fundamental problem confronting Korea—is deeply rooted in the inequality of wealth distribution and in particular in the extreme concentration of land ownership. Land value is always a socially created value and never the result of action by the landowner. The value of land in urban areas

is a value that does not arise until a city is formed and that (unlike other values) grows with the growth of the community and public investments. People feel that it is not fair that a minority of land monopolists have appropriated exclusively the socially created value. People resent paying high prices for land, because no resources have been devoted to the production of land. Land is a natural resource, and prices have become so high that ordinary people are unable to afford decent housing. The prospect of achieving home ownership, which was been the greatest incentive for private saving and hard work, has been withdrawn from most workers. The work-and-saving incentive has suffered seriously from recent land speculation. The legitimacy of government economic policies has been brought into doubt. In the extreme, even the free market system has been blamed, and the legitimacy of wealth is in doubt.

The legitimization crisis as well as the economic crisis cannot be overcome without solving the land problem in Korea. The land monopoly, and not the free market, must accept the blame for the worsened housing conditions of the working class in major metropolitan areas.

The concentration of wealth is a necessary precondition for the development of the capitalist mode of production. But land monopoly, as Henry George noted, is not a necessary condition for the capitalist mode of production. Capitalism entails the accumulation of wealth based on the provision of goods and services to consumers. It is a two-way exchange: consumers produce wealth in order to consume (that is, by exchanging with others). The emergence of a land monopoly undermines this creative process because the latter is a one-way relationship. The land monopolist secures legal title to the resources of nature and then claims a portion of the wealth created by others in return for nothing more than the permission to use land. This is the economics of the bandit sanctioned by law. The land monopolist *per se* does not contribute to production; he is, therefore, an anomalous feature within an otherwise efficient system. This argument, however, does not imply that social ownership of land is required. Social ownership of land, in turn, creates another problem—i.e., market failure in the dynamic allocation of land as a scarce input to production. If the government levies tax on the increase in the value of land, mainly due to economic progress and public investment, and spends the money on socially necessary projects, there is no need to interfere with either liberties or property. Let us examine more closely the cause of land speculation in Korea to find a more concrete solution.

### 1. Cases of Land Speculation

One of the most significant legacies of the cyclical land speculation occurring since the 1960s is the myth that land prices will inevitably continue to rise. Because of this myth, people (and in particular big entrepreneurs not even in the real estate trade) tried to buy as much land as they could. This myth also led landowners

to believe that they could expect greater economic advantage from holding land than selling it. Consequently, land prices accelerated and demand for land expanded while supply slowed. A rise in land prices in one place touched off more price increases in other places, thus causing this myth to become an even more deeply rooted belief. People believed that what occurred in the past would recur in the future. The myth that land prices continue to rise resulted in a fetish for land. People applied the myth to all land and believed that all land prices would continue rising, regardless of location. Moreover, the Korean people seem to have despaired of any land policy. Their distrust of land policy involves a myth that land policy is completely futile, along with the myth of land shortage and the myth of the inevitable rise in land prices. It is crucial that we analyze scientifically the causes of land speculation and show that a viable land policy exists, so that the myths can be abandoned.

Land is an extremely valuable resource in a crowded and rapidly developing and urbanizing country like Korea, and its price can be correspondingly high. It is therefore important that land be used efficiently. Market clearing prices under circumstances without land speculation are parameters in ensuring that land is devoted to its most valuable use. The essence of the land problem is not high land value, but land speculation. High land value is a signal to use land intensively as a scarce resource. Land speculation results in market failure, both in efficiency and equity. Astronomical land prices, for example, would sabotage the government's projects for regional development. Since the 1960s land prices have increased so rapidly that the cost of buying a home has risen beyond the reach of most family budgets, even those of white collar workers. The relative scarcity of land cannot be the entire explanation for the astronomically high land values in Korea. It is also worth noting that residential and commercial sites account for only 2 percent and factory sites a mere 0.2 percent of the total land area in Korea. The shortage of land for these purposes has regularly served as a trigger for land speculation. Furthermore, about half of Korea's forested lands have slopes of less than 15 degrees, and it is feasible to convert such land for urban uses.

The basic reason for the rapid increase in land prices is that demand for urban uses has grown so quickly due to rapid industrialization and urbanization, whereas the supply of land for urban uses has been restricted. Although the stock of land with potential for conversion to urban uses is large, actual conversion has been limited. Thus the urban land supply has not been able to catch up with rising demand. Land speculation emerges when demand for land increases rapidly and the supply cannot meet the demand. Land has therefore become an asset—indeed, the most profitable asset—rather than a factor of production. In the second half of the 1960s and in 1978 and 1979—the periods when land speculation was most intense—land price increases were in the range of 50-80 percent. As prices rapidly increased in the land market, it was natural that the expected rate of return on real estate was far higher than the prevailing interest rate, the rate of profit in

manufacturing enterprises, or the rate of return on securities. Expectation of such increases led to land speculation, which in turn accelerated the rise of land prices for urban uses in two ways. The land speculation booms created speculative demand for land, causing the demand curve to be shifted upward. At the same time, land speculation brought about a contraction in the effective supply of land. Land owners preferred to hold land idle in the expectation of even greater capital gains, thus causing an upward shift in the supply curve. This vicious cycle caused the land situation to deteriorate even further.

Over the past 30 years, Korea has undergone a rapid transition from an agriculture-based economy to a modern industrial society. This process has been accompanied by a major shift in population from rural to urban areas. In 1960 just over a quarter of the population lived in six big cities. Today almost three-quarters of the populace are urban dwellers. Moreover Korea's spatial development has been characterized by a high degree of concentration of population and economic activity in the two largest cities—Seoul and Pusan—and along the axis linking them, which extends the entire length of the country and includes the cities of Taegu, Inchon, and Taejeon.

The process of rapid urbanization has been accompanied by rapid growth in the demands upon the limited areas available for urban uses, including the demand for industrial and residential sites and land for roads, schools, and other public amenities. Thus the discrepancy between demand and supply accounts for the initial increase in land prices. Various public investments in construction (such as industrial sites, roads, and the development of cities) create development profits in the form of increases in land prices within the area under development and in its environs. Such a rapid increase in land prices and creation of development profits generated by public investment become potential factors in speculation. When other economic factors including monetary expansion and inflation are added, speculation begins to appear.

When the fiscal system permits a few landowners to exploit the land market to their advantage, the benefits of publicly created land values are privately appropriated. This has been characteristic of development in Korea since the late 1960s. The hard work of employees and the entrepreneurial skills of management suffered an unwarranted setback with the collapse induced by the land speculation booms. The government, alarmed by the effects of the land market on the rest of the economy, attempted to resolve the problem through legislation. But the 1968 Anti-Speculation Tax on land transactions was enacted and enforced after the proverbial horse had bolted, since land prices started coming down in the next year.

Despite legislative efforts, the system of land taxation has continued to reinforce speculation and the misallocation of land. Urban families and industries rely for expansion on a relatively scarce amount of land in an exceedingly mountainous country. Yet urban land has been taxed at only 0.02 percent of the

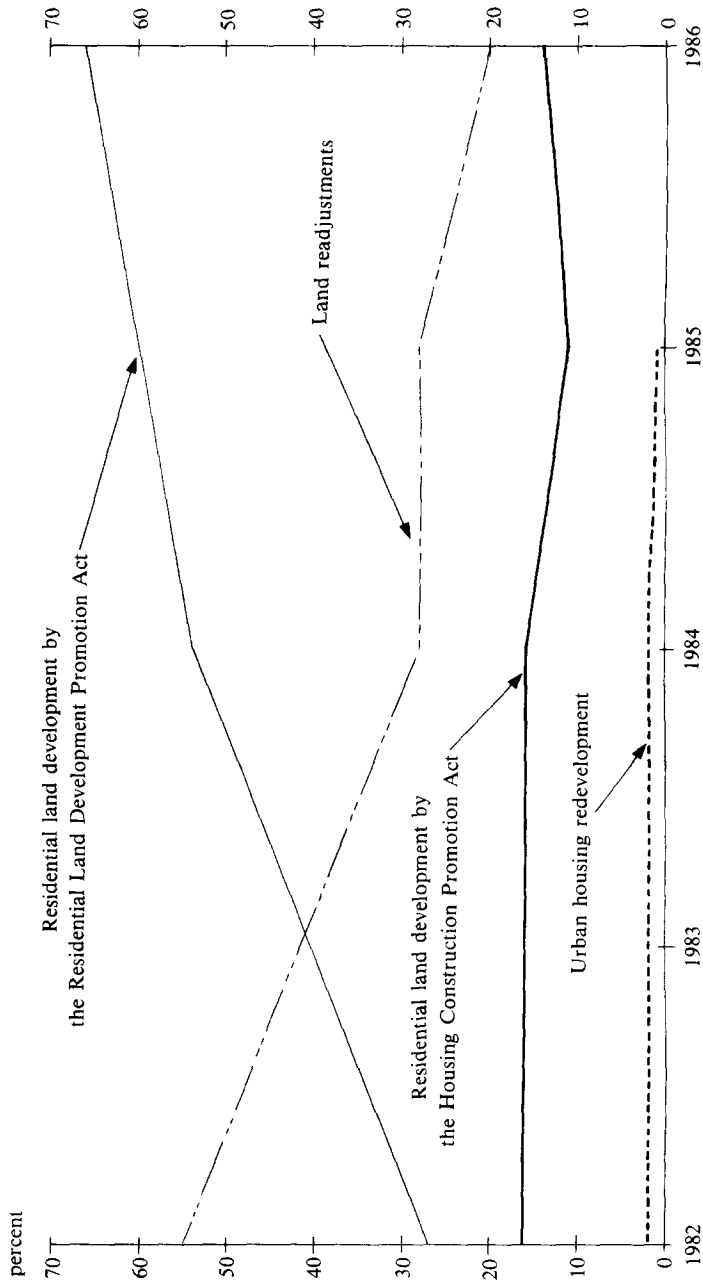
market value of the land. The incentive, then, is for landowners to keep their land while their properties appreciate inexorably in value. Then, those who mistimed their sales—having failed to dispose of properties before the peak of the cycle—are encouraged to hold onto their land because of the real estate capital gains tax. Why sell (if there is no fiscal inducement to do so, whatever the demands of the market) when you can postpone the transaction into the future, when the tax may be removed?

Furthermore, the national government exercises severe control over the conversion of land from rural to urban uses. As urban areas grow and decentralize, land must be converted from rural to urban uses. It is inevitable that governments become involved in this process because of the need to provide infrastructure in the form of roads, schools, sanitary facilities, and so on. The government, however, has regulated development of new areas on the urban fringe, and the slowness in approving new sites has contributed to the shortage and high price of housing sites.

The main government program for rural-to-urban conversion up to the late 1970s was the Land Readjustment Project (LRP). Under this program, undeveloped sites near the urban fringe were designated as development sites. Development sites may be chosen by an 80-percent vote of the landowners, but mostly they are designated by either the city government, the national government, or the Korea Housing Corporation. The essential feature of the LRP is that public sector infrastructure costs are financed by a project-specific tax. This tax is paid in the form of a portion of the land under development (usually about half of each site), which is transferred to government ownership.

The LRP was used extensively during the period of rapid urbanization, until the late 1970s. The fact that inclusion in a project caused land values to rise substantially made the program viable. From the perspective of the landowners, the 50 percent of the land they retained was worth considerably more after the installation of the infrastructure than the entire site had been worth before it was designated for development.

In Korea, for the most part, it is not legal to develop land for urban uses without being included in an LRP. Thus, one reason that inclusion in a project raises land values is that infrastructure is supplied, but another reason is that development permission is itself scarce and therefore valuable. William A. Doebele (1982) is concerned that land in readjustment projects becomes so valuable that low-income housing cannot be built on it. Land values rose by more than the value of the infrastructure, because development land is kept scarce by permitting too few projects. One consequence has been the frequent rapid rise in land prices and subsequent land speculation around the project. Another drawback of the LRP was that it deters high-density use of scarce urban land. Single detached housing lot development prevailed, and it was very difficult to get large scale-lots for multi-family higher-density housing development.



[Figure 4] Area by land development type, 1982-96

Source: Ahn (1988).

[Table 10] Profit distribution by land development type (%)

Participant	Land readjustment	Housing lot development	Residential land development
<b>Public</b>	<b>6.0</b>	<b>33.2</b>	<b>41.8</b>
Developer	0.1	2.0	36.3
Government	5.9	31.2	5.5
<b>Private</b>	<b>94.0</b>	<b>66.8</b>	<b>58.2</b>
Original landowner	84.1	i	i
New land buyer	4.1	38.8	16.6
Builder	0.7	3.8	4.5
New house buyer	5.1	24.2	37.1
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Korea Land Development Corporation (1987).

i=inapplicable.

Since 1980, the government-initiated residential land development method has replaced the LRP for purposes of urban development. The uniqueness of so-called public (or government-led) development is to take land ownership away from the existing landowners by bloc purchase. Development plans are formulated by public institutions, such as the Korea Land Development Corporation, and development takes place accordingly. Once lots are subdivided and partitioned, they are either sold or leased to actual demanders. It is a genuinely wholistic approach. In 1986 alone, 80 percent of large-scale urban development was undertaken according to this development technique (Figure 4). When compared to the LRP method, the wholistic residential land development method has several advantages. First, it allows for an ideal type of development plan, and such a plan can be implemented effectively. Second, individual lots can be sold for relatively low prices to the demanders. Third, the method is efficient, given the fact that it takes three to five years on average for completion—in contrast to LRPs which often take more than ten years.

The most serious problem with the new method is related to public acquisition of private land. The difference in land prices before and after the project (that is, development profit) is substantial. The original landowners do not feel justly compensated for their properties and therefore resist the proposed development. Table 10 shows how the development profits are distributed by each method. This fact suggests again that it is necessary that development benefits, both within and outside the project area, should be appropriated socially by the capital gains tax for smoother development.

## 2. Misdirected Land Policy

Real estate speculation reemerged and land prices soared again in 1988 and 1989. Previously price increases were concentrated mostly in a few big cities, but now

the entire country is affected by them. Much of the speculation involves land earmarked for new development areas. The cost of buying a home in the big cities rose beyond the reach of most family budgets, including the middle class. To cope with this problem, three new laws were enacted in 1989: the Urban Residential Land Ceiling Act, aimed at regulating residential land held for speculative purposes; the Development Charge Act, which levies a 50 percent charge on betterment profit; and the Abnormal Capital Gains Tax Act, to tax unused land in cases where land price increases at rates higher than the national average on an accrual basis. In fact, however, these three new acts can be regarded as modifications of the existing Global Land Value Tax and the Real Estate Capital Gains Tax, to provide a means of imposing heavier tax on specific tax bases. The essence of the Urban Residential Land Ceiling Act is to impose a 6-percent tax on residential land holdings above the ceiling (300 *p'yong*) in the six largest cities. The Development Charge Act is a modification of the real estate capital gains tax imposed on developers only. And the Abnormal Capital gains Tax is a modification of the real estate capital gains tax imposed on unused land only. The crucial drawback of these three acts is the narrowness of the tax bases. The acts cannot provide an effective means of curbing land speculation, if the fact of the recent land speculation that has affected the entire country is taken into consideration. In particular, much of the recent land speculation involves woodland and farmland around new development areas, most of which is not covered by any of these acts.

Furthermore, the Urban Residential Land Ceiling Act and the Development Charge Act will restrain the conversion of rural land to urban uses, thus decreasing the supply of urban residential land. The woodland or farmland in urban fringe areas will be converted into residential land as urbanization proceeds. According to the Global Land Value Tax, the farmland and woodland are subject to a tax rate of 0.1 percent, while residential land is subject to a progressive rate scheme ranging from 0.3 to 5.0 percent. Moreover, the residential land area beyond the ceiling is again subject to a 6-percent tax rate under the Urban Residential Land Ceiling Act. A landowner thus faces far higher tax rates (more than sixtyfold) if he converts his farmland or woodland into a tract of residential land with an area exceeding the fixed ceiling. It is therefore natural to expect that he will be reluctant to convert. As a result, the increase in residential land prices will accelerate due to the shortage. The price of woodland and farmland on the urban fringe will rise, too, due to expected capital gain from future conversion. A similar mechanism works under the Development Charge Act. A developer who owns a huge area in the urban fringe, rather than developing his land for urban uses, will take a wait-and-see strategy to avoid the development charge.

The Abnormal Capital Gains Tax is against the equity principle. The tax will be imposed periodically by a 50-percent tax rate on capital gains, but only if the price of unused land increases at rates higher than the national average. In fact, the tax base is quite narrow: land held for business purposes is exempted, including

golf courses and parking lots as well as farmland, pasture land, factory sites, and so on. It is inequitable to levy a capital gains tax only on land held for nonbusiness purposes, because there is no difference in respect to capital gains accrued between land held for business purposes and that held for nonbusiness, due to the twofold character of land. Most of the land monopolists, including big corporations and related persons, can easily avoid the tax by disguising the use of their land as though it were for business purposes. Only the small landowners, mainly the middle class, will be subject to the tax, since they cannot afford to use their land for business purposes. As a result, the concentration of landownership will be accelerated by this act.

Broadening the tax base is a crucial step necessary in land taxation, to curb land speculation and to improve the equity of the tax system in Korea.

### 3. Alternatives for Reform

To dampen land speculation, it is necessary both to decrease the speculative demand and to increase the supply of urban land. To decrease the speculative demand for land, it is necessary to induce a shift in investment portfolio composition, from land to other socially productive assets. The rates of return on land have been much higher than those on other assets, such as securities. Thus, the relative advantage of land should be eliminated, and this objective can be achieved through taxation.

There are two kinds of taxes imposed on land, corresponding to the twofold character of land: a land value tax (property tax) is imposed on rent, and a capital gains tax is imposed on capital gains. Both taxes are closely related. Almost all countries impose a tax on land value. Taxation of land and structures is the main source of local government revenue in the United States and, to a lesser extent, in other English-speaking countries. In the United States, annual urban real estate taxes are typically in the range of 2-4 percent of the market value of land and structures, or an average of about 25 percent of land rent.

Land taxation is an efficient source of government revenue, because land is a nonproduced input and taxation therefore does not reduce its supply or affect its gross value or rent. Some economists, for example Henry George, believe that land taxes should be as high as annual land rents, but this is certainly unwise. Resources must be devoted to finding the most valuable use of land, and no one would commit those resources if all the resulting rent were taxed away. But land taxes can presumably be a substantial fraction of annual rent without loss of efficiency. Taxation of structures is always distorting to some degree, although there is much controversy about the magnitude of the resource misallocation it causes. Equity aspects of land taxation are even more attractive. Since assets are being held more in land than in any other form by the small number of wealthy Koreans, taxation on land could be made more progressive than other forms of wealth

taxation.

Existing property taxes in Korea, including the Vacant Land Tax, were superseded in 1990 by the Global Land Value Tax. The new legislation adopts the aggregate land value of an individual as the tax base. The land value tax is imposed on this base at progressive rates ranging from 0.3 to 5 percent. The enactment of this new land value tax represents considerable progress in the tax system, especially in view of the fact that most of the total landholdings are in the hands of a few wealthy persons.

Valuation is the most difficult problem for implementing a land value tax. A land value tax is a tax on a stock rather than a flow. So that stock must be evaluated each time the tax is collected. Land valuation is always a problem because the land market is not centralized or standardized. An efficient valuation service is important. But the authorities in Korea have deliberately undervalued the land, and the land tax has thus become negligible. The valuation of land for tax purposes was on average below 20 percent of the market value in 1988. To improve this situation, the government decided to announce a standardized land price for the entire nation beginning in 1990. The tax rate, however, is so low that the effective tax rate is still 0.08 percent, for example, for the owner of land with a real market value of 0.5 billion won. The nominal tax rate should be raised so that annual land taxes collected from the top 5 percent of the landowners are in the range of 1-2 percent of the market value of the land. The land value tax alone, however, may not be sufficient to curb speculation. It can be shown that the dampening effect of the land valuation tax will diminish rapidly in areas where the expected capital gain is higher.

Korea appears to have a commendable approach to the taxation of capital gains when compared with most industrial countries. Korea's real estate capital gains tax rate is very high. In reality, however, this tax is simply a "paper tiger," since the tax base has been eroded seriously due to severe undervaluation and wide loopholes in the law. Tax revenues from the real estate capital gains tax were very small relative to the huge capital gains in each year. As a proportion of total internal tax revenue, even at the peaks of the land speculation cycle, these revenues amounted to only 1.5 percent (34 billion won) in 1978 and 1.8 percent (113 billion won) in 1983. The Korean government adopted cyclical control measures and relief measures, mainly through frequent revision of the real estate capital gains tax law. In response to the surge in speculation buying of real estate, the government moved toward harsh tax treatment of capital gains on transactions in real estate. But, in response to economic recessions, the government relaxed the tax treatment of capital gains.

An anti-speculation tax was enacted in 1967. It applied only to Seoul, Pusan, and other areas that might subsequently be specified by presidential decree. The provisions of this tax were incorporated into the income tax system in 1975. Capital gains taxes exist as a supplemental tax to bolster the global income tax. Indeed,

capital gains fall within a broad definition of income and should be considered as part of the global income tax base. It imposes a 40-60 percent tax on capital gains on real property. The tax is calculated on sales price less purchase price, less capital improvements, less appreciation at the rate of increase of the wholesale price index. Thus, the law basically taxes only real and not nominal capital gains. Basing the tax on real rather than money capital gains represents a degree of economic sophistication that is rare among governments.

By international standards Korea's schedular progressive real estate capital gains tax rate is unusually onerous. Among OECD countries with a schedular capital gains tax, only Denmark begins to approach the Korean level of tax rates, with a flat tax of 50 percent on all capital gains. But in Denmark the cost of real property is indexed according to the length of ownership and other adjustments. In other countries, the rate varies from 10 percent in Portugal to 40 percent in Switzerland. The tax in Korea may reach as high as 89.25 percent on short-term gains (if the defense surtax is included) and 96 percent on gains on unregistered property.

It is likely that the stiffening of this tax rate may have had a psychological impact on the real estate market, dampening the impetus for speculation. On the other hand, the imposition of such an extremely high tax rate may have led many landowners to defer the sale of land, in the hope that it will ultimately be reduced. At the minimum, it may lead speculators to hold land for two years in order to take advantage of the lower rates imposed on long-term owners. The higher tax rates are likely to stimulate efforts at evasion. This may lead to a shift in the focus of speculators toward types of land and buildings for which evasion is easier. This has already happened in Korea, because wide loopholes in the law still exist.

In fact, the capital gains tax on land sales has affected few persons, mainly because many who should come within the tax network avoid tax and partly because the existence of anonymous "no-name" financial assets makes it difficult for the tax authorities to cross check the real estate transactions and ownership. Tax loopholes have widened mainly in the recession periods, for example, in the early 1970s and 1980s. The most serious drawback of the real estate capital gains tax is that exemptions and preferential taxation have been widely permitted. The exemption of gains on the sale of personal residences is permitted in most countries. Only in Korea, however, have exemptions been allowed on capital gains from the sale of forest land, pastures, factory sites, farmland, and reclaimed land. Although certain conditions are imposed on such exemptions, they can be easily satisfied.

The variety of exemptions render it virtually impossible for administrators to verify whether a realized capital gain is taxable. Nor can underdeclaration be checked, because the cross-checking mechanism is weakened by various exemptions. As a result, the real estate capital gains tax has never been effective. Thus tax loopholes are so wide that land speculators avoid capital gains tax without difficulty. The most important step the government should take is to close all loopholes.

Another important drawback of the tax is caused by the lock-in effect, which is an undesirable consequence of taxing capital gains on a realization basis. The tax system has a built-in incentive for postponing realization, since the owner of any land that has increased in value will benefit from a virtually interest-free loan on the tax payment by postponing the payment of taxes. This incentive reduces the supply of marketed land, thereby tending to raise prices, and the tax is shifted to the buyer. To avoid this problem, it is necessary to tax capital gains on an accrual basis rather than on realization. Taxation on an accrual basis, however, might force landowners to sell land prematurely in order to obtain the money to pay the tax (thus creating a liquidity problem). For this reason, the best course would be to limit the regular tax levy to the amount of *interest* on the accrual capital gain, and then, at the realization, the capital gain itself could be taxed.

Capital gains tax on assets must encompass large gifts and bequests. Otherwise, a valuable estate could pass from generation to generation without ever paying capital gains tax. There is complete exemption of capital gains from income tax, which encourages the lock-in effect as an asset-owner approaches the later years of his life. Because the present estate and inheritance duty operates inadequately, it is all the more necessary to make gifts and bequests liable to capital gains tax.

At the corporate level, the taxes on gains arising from real estate transactions are doubled by means of the Additional Capital Gains Tax, but without permitting any matching offset of real estate losses with gains. In fact, however, more wide loopholes are open to corporations than to individuals. Corporations are exempt from accrued gains arising from voluntary revaluation of business assets (under the Asset Revaluation Law) and are taxed at a substantially preferential rate. The Assets Revaluation Tax provides potential tax benefits (a very preferential 3 percent rate and eligibility for increased capital deductions). Furthermore, various exemptions of the capital gains tax have been permitted to corporations. The tax revenue from Additional Capital Gains Tax imposed on corporations has been negligible, although the big corporations are generally believed to have led the land speculation. It is also very important to abolish all exemptions and the preferential treatment of capital gains.

On the supply side, it is necessary to increase the effective supply of urban land in two ways: (1) the government should relax controls on land-use conversion, and (2) the government should relax controls on building height and density. The way to keep urban land values down is to increase to supply of urban land—that is, to approve more projects. The fiscal profitability of urban land development projects in the past shows that developable land is kept scarce, and therefore expensive, by government controls.

One of the most important steps the government could take to solve the land problems would be to relax controls on land-use conversion. The supply of land suitable for development is limited by greenbelt areas where development is not allowed. If some of the land currently zoned as agricultural land or as greenbelt

were released for development, downward pressure would be exerted on land prices. If there is little scope for expanding the supply of urban land, it will be necessary to develop satellite cities outside the greenbelt areas. It may eventually be necessary to disperse industry and settlement across the country. The Second Comprehensive National Land Development Plan has spelled out government hopes for some such dispersal.

Land is a very scarce resource in Korea, and the price of land is accordingly high. If it is expensive, other inputs are substituted. In manufacturing, a tall factory building can be built on a small plot. For residences, high-rise apartments on small plots are preferred. Korea's government, however, has imposed severe control on the height and density of buildings. This policy may be mechanically copied from the Japanese policy. After the Kanto earthquake and fire of 1923, severe controls were imposed on the height and density of buildings in Tokyo. The Korean peninsula, however, is not an earthquake-prone area. Real construction costs have fallen since the late 1960s, as the construction industry has become more productive. But urbanization and land speculation have forced land values up in urban areas. Therefore, scarce urban land will have to be used more intensively. If government controls on the height and density of buildings were relaxed, the effective supply of urban land could be increased. The high-rise apartment solution of the 1950s and 1960s proved to be a disaster in some ways in the United Kingdom and the United States. But the average height of all buildings, even in Seoul, is on average a mere 2.8 meters.

## V. CONCLUDING REMARKS

It has been shown that the essence of the land problem in Korea is land speculation. Land speculation has resulted in market failure, both in efficiency and equity. The cyclical land speculation booms in Korea have been based on three myths about urban land: the myth of land shortage, the myth of continuous increases in land prices, and the myth of the futility of land policies. The basic reasons for rapid increases in land prices in Korea are the rapidity with which the demand for urban uses has grown, the limitations placed by the government on rural-to-urban land conversion, and the private appropriation of socially created land value. It has been argued, moreover, that a viable and fairly simple land policy does exist and can be used to dispel the three myths. To dampen the speculative demand for land and to appropriate socially the increases in the value of land, the effective tax rate of the Global Land Value Tax should be raised, and all loopholes in the Real Estate Capital Gains Tax should be closed. Also, the land use control system should be reformed to promote rural-to-urban land conversion.

Further research is clearly needed. The conclusions presented in this paper are hypothetical and should be examined more rigorously. In the first place, there is no unified land speculation theory. Two opposing views—neoclassical and

Georgian—are still in use simultaneously. A more rigorous theoretical model should be developed to explore the nature and effects of land speculation on the working of the economy. Another theoretical issue that must be rigorously investigated is which type of tax (land value or capital gains) is the more effective means of curbing land speculation. Ever since Henry George formulated his theory, it has been believed that the land value tax is the better policy instrument. The Georgian view, however, is not fully supported by typical portfolio theory and has remained controversial.

Thus far, this paper has implicitly assumed that land markets in Korea (in particular the urban fringe land market) are competitive even though landownership has become highly concentrated. The market power of big landowners in some localities, therefore, is an important issue to be investigated empirically. The astronomical land prices in Korea, which throw suspicion on classical land value theory, may be a result of both land speculation and the land monopolists' market power. Individuals owning a sizable share of the supply of urban fringe land can intentionally withhold part of their land to drive prices up. Markusen and Scheffman (1977) showed that concentrated ownership always confers potential market power on the large landowners, and they demonstrated the existence of leapfrogging. In the case of urban areas in Korea, an empirical question remains: is there in fact sufficient ownership concentration to demonstrate the existence of significant market power? Finally, the historical experiences of other countries with respect to land speculation and policies to curb it should be more closely examined. Such a study, taking a comparative cross-country approach, would be helpful in formulating viable institutional reforms.

## REFERENCES

- AHN, KUN HYUCK (1988), *Korean Experience in Urban Development*. Unpublished report. Seoul: Korea Research Institute for Human Settlements.
- CARTER, W.D. (1982), "An Introduction to Henry George." In R.W. Lindholm and A.D. Lynn (eds.), *Land Value Taxation*. Madison, Wisconsin: University of Wisconsin Press.
- DOEBELE, WILLIAM A. (1982), *Land Readjustment*. Lexington, Massachusetts: Lexington Books.
- Economic Planning Board (EPB). (various years), *Korea Statistical Yearbook*. Seoul. Annual.
- Economic Planning Board (EPB) (various years), *Monthly Economic Statistics*. Seoul. Annual.
- HANAYAMA, Y. (1986), *Land Markets and Land Policy in a Metropolitan Area: A Case Study of Tokyo*. Boston, Massachusetts: Oelgeschlager, Gunn, and Hain Publishers, Inc.
- HARRISON, FRED (1983), *The Power in the Land*. London: Shephard-Walwyn Limited.

- HOYT, H. (1950), *The Urban Real Estate Cycle: Performances and Prospects*. ULI Technical Bulletin No. 38.
- GEORGE, HENRY (1946), *Progress and Poverty*. Fifteenth edition. New York: Robert Schalkenbach Foundation.
- KANG, B.K. (1989), *The Effect of Economic Policies on Income Distribution in Korea*. Ph.D. dissertation, Hanyang University, Seoul.
- KIM, HYUN SIK (1988), *Land Use Planning and Policies in Korea*. Unpublished report. Seoul: Korea Research Institute for Human Settlements.
- Korea Appraisal Board (various issues), *Survey of Market Prices of Land*. Seoul. In Korean. quarterly.
- Korea Land Development Corporation (1987), *A Study of Improved Residential Land Development Methods*. Seoul. In Korean.
- Korea Research Institute for Human Settlements (1988), *The Final Report of the Research Committee for Public Control of Land*. Seoul, In Korean.
- MILLS, EDWIN S., and B. SONG (1979), *Urbanization and Urban Problems*. Cambridge, Massachusetts: Harvard University Press.
- MARKUSEN, JAMES R., and DAVID T. SCHEFFMAN (1977), *Speculation and Monopoly in Urban Development: Analytical Foundations with Evidence for Toronto*. Toronto: University of Toronto Press.
- Ministry of Construction, Republic of Korea (various issues), *Change Rate of Land Prices*. Seoul. In Korean. Quarterly.
- NOGUCHI, YUKIO (1989), *Land Economics*. Tokyo: Nippon Economic Daily Newspaper Company. In Japanese.