

Housing Policy and Programs of the Republic of Korea 1962-1981

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I. Introduction

A developing country, the Republic of Korea has recognized and acted with admirable resolution to the social and economic requirements of industrialization and modernization. The purpose of this article is to describe one aspect of the rapid transition from a rural to an urban population, from an agricultural to an industrial economy: urban housing policy formulation and program implementation. The discussion that follows is based on information from available sources that were published in English and a few tables of data that were translated, as well as interviews with experienced officials in government ministries and agencies, banks, research institutions, and universities. Resources were not available, i.e., time and money, to undertake the comprehensive research necessary to analyze output relative to input of housing policy and programs, nor to undertake inter-country comparisons, cross-sectional or temporal.

The first part is concerned with an overview of the institutional structure. Inasmuch as a capital shortage has characterized the Korean economy, the emerging housing finance system is emphasized. The second part discusses achievement standards and the record of capital formation in housing dur-

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ing three Five-Year Economic Development Plans. The last part includes the housing objectives of the 4th Plan, and the financial policies to achieve specific housing investment targets.

Korea was one of the last Asian countries to abandon centuries of self-imposed economic and social isolation from Western nations. No sooner had this change begun in the latter part of the 19th century, than the Japanese began an imperialist expansion that imposed economic and political constraints on Korea, and then physically occupied the country until 1945, the end of World War II. Korea was spared the ravages of that war, but the partition into North and South Korea and the Korean War were socially and economically devastating, and disrupted development. As Gunnar Myrdal has pointed out, industrializing nations and countries, i.e., modernization, require a complex system of interference with the economic system and the price mechanism of developed, Western nations in order to speed up the economic development process, and to compete in the international economy. In turn, the necessary conditions for this complex system are national solidarity and political responsibility of the people. Although lacking in adequate natural resources, the Republic of Korea has achieved these conditions by centralizing decision making in effective government institutions.

Beginning in 1962, the government began to implement a series of Five Year Economic Development Plans. These plans have efficiently and effectively allocated resources to industrial development, especially manufacturing for the export sector, as well for energy production, communications and transportation. The rapid growth in industrial development has resulted in a high rate of urbanization of the population. From 1960 to 1970, national population increased at an annual rate of about 2.5 per cent, and the urban population at about 5.2 per cent per annum. Large cities had about 15 per cent of total population in 1961, and in 1976 about 27 per cent. By 1981 the proportion is expected to reach about 30 per cent. The capital city of Seoul has increased in population from about $2\frac{1}{2}$ million in 1960 to over 7 million by 1976, and now has almost 20 per cent of the national population. Policy has been formulated and implemented by government to control urbanization by industrial relocation from large cities, especially Seoul, to small, and new cities for manufacturing as well as government functions are being planned. These drastic steps, relative to U.S. urban development.

policy, are the result of the lag in investment in urban development behind the rapid urbanization—industrialization process. The lag in urban housing and related investment such as water and sewer systems, and intra-urban transportation, is of such significance that the Republic of Korea has included housing as a sector or component the economic development plans, and has developed an institutional structure to implement housing objectives.

II. The Institutional Structure for Housing Programs

A complex institutional structure of administration and management has been created to plan housing output and required investment targets, and to allocate the necessary resources. The Economic Planning Board is responsible for the formulation and design of the overall economic plan. Housing requirements are estimated by local government, e.g., cities and/or counties, and forwarded to the provincial governor.⁽¹⁾ In turn these consolidated requirements are sent on to the Ministry of Construction, where total, national housing output and investment is determined. This aggregate requirement is transmitted to the Economic Planning Board. The process is then reversed. The investment share of the Five-Year Economic Development Plan allocated to housing is based on the housing needs estimated by the Ministry of Construction, the priorities of expenditures for other sectors of the national budget, and the availability of financial and physical resources of the nation. Figure 1 is diagram of the process. Allocation of output is made for the Private and Public Sectors, and the Private Sector has been allocated the larger share. However, the sectors are not categorical because the government supports the Private Sector's allocation by subsidies and incentives, as well as by the Korea Housing Bank, as shown in figure 1. The first Plan, 1962-1966, depended almost entirely on the Private Sector to achieve the target, 88 per cent of output. Succeeding plans have assigned a larger scale to the Public Sector to more effectively achieve housing objectives.

The Public Sector is largely administered by the Ministry of Construction which has the responsibility for conducting surveys of housing conditions and requirements and estimating long run demand, for supervision and

(1) The Ministry of Construction is responsible for conducting surveys to determine housing needs.

control of construction of housing as well as urban and rural infrastructure such as streets, water and sewer systems, and public structures, for housing technical development and research, and for allocation of a national housing fund. Clearly, this agency is a key decision making entity for urban development. The Urban Housing Bureau in the Ministry of Construction is responsible for management of the housing construction plan and fund, and the overall control of two operational entities, the Korea National Housing Corporation and the Korea Housing Bank. The Ministry of Interior has control of local governments, e.g., provinces, counties and cities, except for the Special City of Seoul and Pusan: the Prime Minister appoints the

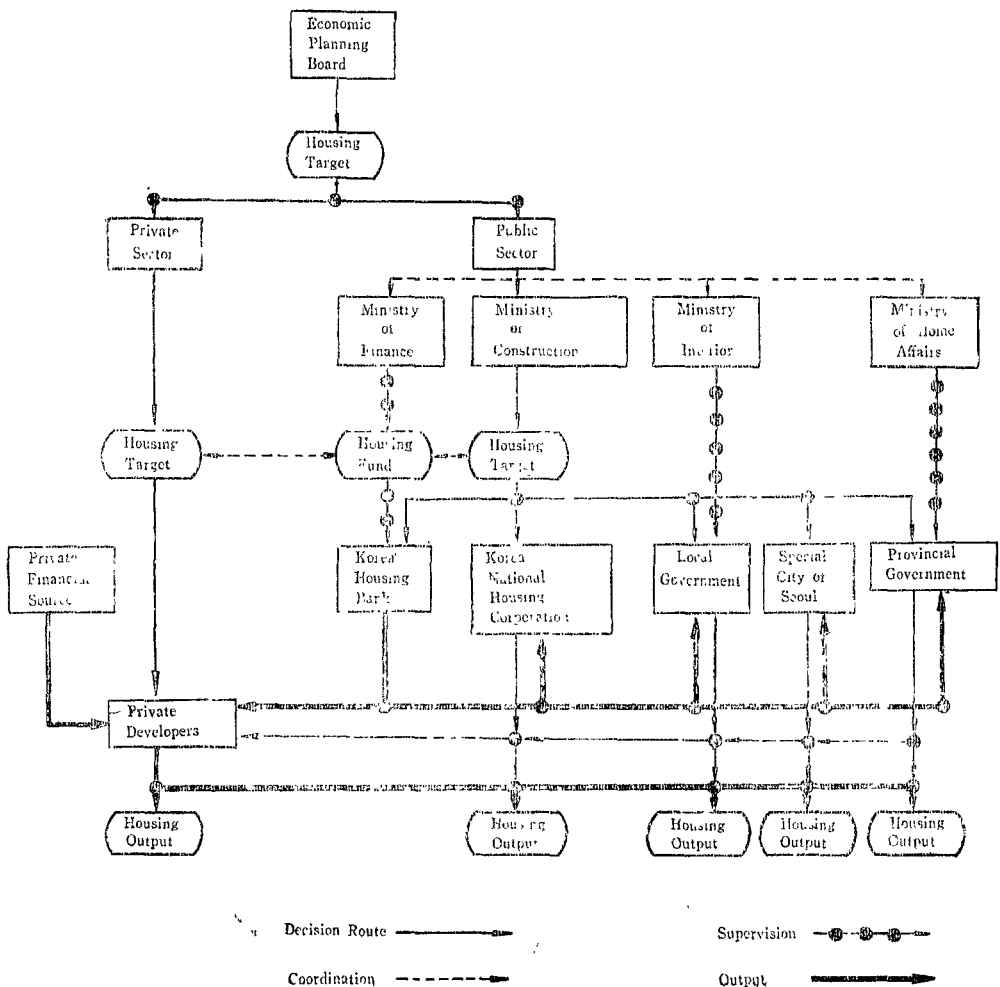


Fig 1. National Housing Plan Implementation

mayor of these cities. The Ministry of Home Affairs is concerned with rural development, including the Saemaul Movement or New Community Development, and the Ministry of Finance has overall supervision of the Korea Housing Bank. This is a highly centralized organization, and requires effective communication to coordinate the components. The methods and procedures for establishing national priorities and the allocation of budgetary funds are beyond the scope of this paper.

Policies and Programs to Implement the Housing Plan

To achieve the housing output targets of the Five-Year Economic Development Plans, specific policies and programs have been formulated and implemented by the Economic Planning Board. Housing policy includes the distribution of the output target geographically and socially. Geographic policy allocates housing units between urban and rural, and among classes of cities as well as regions. These allocations are based on (1) housing needs reported by local government, and (2) national policies for growth and development of cities and regions. For example, the Housing Policy and Long Term Construction Plan of 1974 stipulated that 96 per cent, or 2,003,000 dwelling units, of the 1975-1981 target output of 2,087,000 units be allocated to urban areas, and only 84,000 to rural areas. Because of the rapid increase in the population of large cities, most urban housing has been built in Seoul and Pusan, Taegu, Daejeon, and Kwangju, in that order. In 1975, Seoul and Pusan, population 6,875 million and 2,451 million, respectively, had about 68 per cent of all housing loans made by the Korea Housing Bank. Housing distribution by social standards includes size of the unit, usually in square meters or pyong (3.3 square meters or about 35 square feet), the type of unit, e.g., detached house or multi-family apartment house, price and cost of the unit, and target household group according to income, military and police service, emergency situation, and other special categories. Most of the units built to achieve plan targets are relatively small in size. For example, Public Sector housing built in 1973 had over 60 per cent less than 18.1 pyong, or 634 square feet, and only .8 per cent were over 40 pyong or 1,400 square feet. Further discussion of geographical and social standards for housing policy is in the second and third sections of this paper.

The instruments of planning and implementation are largely the institutions established or expanded and enlarged by the 1972 Long Term Hous-

ing Construction Plan and the concomitant Housing Construction Promotion Law. These institutions are applicable to the Private or Public Sectors, or both, and affect the supply or resource side of the housing market, and to a less extent, demand. The Private Sector is influenced by subsidies to induce savings and investment in housing programs, as well as direct support for site acquisition and for housing finance. The Public Sector is affected by direct production for target groups, under the supervision of the Korea National Housing Corporation and Local Government, and financing by the Korea Housing Bank for housing construction, and to a lesser extent for home ownership.

The contribution of each instrument or institution to the implementation of housing plans and the achievement of targets is beyond the scope of this paper. Research into their effectiveness and efficiency is essential to the management of urban development to achieve national goals.

Land or Site Acquisition and Development

policies affecting site development use two approaches: a) legal or legislative devices, and b) tax incentives. Local governments, the Korea Housing Corporation, and central government make up the Land Zoning Association, and have the authority under the Land Zoning Projects Law to designate the location and area of residential land use, and the acquisition of such land by expropriation or the exchange of other sites for compensation, enabling the Land Zoning Association to acquire the land necessary for the housing Plan. Sites may be acquired in advance of construction, and the price of land is based on residential use and controlled by government. As of June 1974, there were 257 projects consisting of 99,657 pyong or 3,488,000 square feet) of which about 1/3 were in Seoul. Other legislation affecting government control is the comprehensive National Land Development Law, the City Planning Law, and the Land Use Law. These laws were designed to meet specific problems and there is considerable overlap and duplication. An interesting innovation to induce and assist residential land development is the Land Readjustment Project. Local government and the Korea Housing Corporation are empowered to designate an area eligible for the provisions of the regulation. Usually the land is owned by the private sector, i.e., individuals or business firms. The government prepares a deve-

lopment plan for the designated sites, e.g., an apartment complex. The amount of land required for infrastructure, i.e., streets, utilities, sidewalks, etc., as well as public use such as community and recreation areas, is determined and deducted from the total area. This is estimated to be about 30 per cent of the total. The cost of public or government investment in infrastructure is calculated and equivalent amount of the land to cover such costs is expropriated and sold to finance the investment. There then remains from 50 to 60 per cent of the area for development by the private developer. The supply of residential sites has been so limited relative to demand in urban areas that the value of the remaining portion has been sufficient to induce residential development and the program has been widely used. The government has designated an area in Seoul as a Development Accelerating District. Apartment development in this district is exempt from all taxes, of which there are many. Combined with the Land Readjustment Project, this inducement has been very effective in promoting development. On January 24, 1977, the Ministry of Construction announced that an additional 21 per cent of a designated area already in such a District would be included until the end of 1977. The remaining 79 per cent of the new town that is completed will now lose tax exemption.

Taxes on real property, including residential land, have several objectives: revenue, reducing speculative gain, and controlling land prices, which have risen rapidly since 1962. Taxes affecting land use are: a property tax, a real estate acquisition and transfer tax (including a change in use or classification), a capital gains tax which is quite high to discourage speculative gain, a business tax on the sale of real estate, a registration tax, the city planning tax, and a license fee. Adjustments to and exemptions from these taxes are a powerful subsidy to private developers, and have contributed considerably to achieving housing targets. It was pointed out previously that these taxes are exempted for a specified period for a Development Accelerating District. The capital gains tax replaced a land speculation tax that was designed to tax unearned gains in land values. The current tax on the increase in value during the time between purchase and sale of residential property is 30 per cent for the dwelling unit and 50 per cent for land, adjusted for inflation as measured by a price index. The tax is applicable to owners of more than one residential property, and there is a grace period

of six months to sell and transfer all but one house. To meet the target of the Fourth Five-Year Development Plan, the capital gains tax may be amended to include a 12-month grace period, and to substitute a business income tax at a lower, graduated rate for housing built by licensed contractors.

The relative effectiveness and efficiency of these subsidies and inducements to achieve housing objectives has not been analyzed

Housing Production in the Public Sector: Local Government and the Korea National Housing Corporation

Local governments include cities, towns, counties and provinces, i.e., si, eup, myeon, kun and do, and are under the authority of the Ministry of Interior. The City of Seoul is an exception, the mayor is appointed by and is responsible to the Prime Minister, and its legal status permits considerable autonomy. Local governments have Housing or Construction Bureaus that are responsible for building and distributing the housing units assigned by the Ministry of Construction. Currently, financing is provided by the National Housing Fund which is administered by the Korea Housing Bank. In 1975, 17,977 housing units were built for Local Government by the Fund. Of these, 3,000 units were built in Seoul, 5,192 units in Pusan, and the remaining 56 per cent were built in the provinces. The proportion of housing units built by Local Government is declining as the Korea National Housing Corporation contracts to provide their housing requirements with entrusted funds.

The Korea National Housing Corporation was established in 1962 for the production of housing for low income groups. Its functions include construction supervision of housing and related services such as commercial development, community and social welfare development, the sale and management of residences constructed, acquisition and development of land, production of construction materials, and research on construction materials and technology. The corporation is owned by the government and has authorized capital of 50 billion won (\$100 million), of which 46 per cent is paid in. It has two subsidiary companies that produce building materials. The corporation employs over 1,000 persons. The Ministry of Construction sets the output target, and the price and/or rent of housing units as well as their distribution to Local Government including urban and rural areas.

The corporation has the authority to install infrastructure such as streets, water supply, sewerage systems, and electric power if these cannot be adequately provided by local authorities. Community facilities such as shopping centers, playgrounds, housing for the elderly, clinics, and administrative offices are constructed by the corporation according to the overall development plan. Commercial facilities are sold by bid to the private sector, and the proceeds are reinvested.

All construction is built by private, licensed contractors, as indicated in Figure 1. These are selected by competitive bidding. The corporation produces most of the building materials and procures the land.

Distribution of the corporation's output is determined by the housing plan, and includes public housing for low income occupants, rent or sale units for middle and upper income groups in the private market, government employees, military personnel and veterans, employees of industrial complexes and estates, relocation housing for floods and other disasters and urban renewal, and for foreigners. As shown in Table 1, about 82 per cent of the output has been in apartment complexes; since 1972 the proportion is about 97 per cent. About 78 per cent of the units have been sold, and at a price based on construction and land cost. Low income dwelling units have averaged 42.9 square meters (455 sq. feet), the smallest permitted by policy, i.e., the Long-Term Housing Plan. The other units have 82.5 sq. meters (875 sq. feet) or larger. Housing targets have included neighborhood balance, or the mixture of income groups, and the corporation has built "new" towns accordingly. The first is Jamsil New Town, located south of the Han River on land that had been annually flooded, hence unused. The corporation purchased 380,000 pyong (13,500 million square feet) of the area, or about 11 per cent, and planned to invest 90.5 billion won (182 million dollars) from 1975 through 1977 to create a model apartment complex to house 19,500 households, with units ranging from 25 square meters (265 sq. ft.) to 82.5 square meters (875 sq. ft.) in space, except for a 15 story apartment which has units up to 116.8 sq. meters (1,200 sq. ft.). The project includes nursery schools, play fields, recreation areas, schools, medical clinics, shopping facilities and other service facilities. Another new town in the Seoul metropolitan area is Banpo New Town which was completed in 1974 and includes 4,100 dwelling units. The residences in the New Towns have been

sold to occupants, and are in great demand. Favorable financing, especially the USAID Housing Guaranty Program, has resulted in such great demand that units were quickly sold and a lottery system has been used to allocate among buyers. The corporation has used the profits of larger units for higher income occupants to help subsidize the cost of the smaller units for low income groups, a policy that explicitly cross-subsidizes and should be analyzed to determine the effectiveness of the process.

The corporation built 12,900 units during the 1st and 2nd Plans, 1962-1971. During the 3rd Plan, 1972-1976, a total of 62,125 units were built. Table 1 shows the annual production. The impact on housing output of the economic difficulties during 1971, 1972 and 1973 is shown by these data. Production increased rapidly in 1973; output about doubled on an annual average as a result of the Housing Construction Promotion Act in 1972. A target of 200,000 units has been set for the 4th Plan, 1977-1981, requiring an annual output of 35,000 to 40,000 units. This is about 35 to 40 per cent of the Public Sector target, and is a substantial increase from past performance.

Table 1. Housing Production by the Korea National Housing Corporation 1962-1976

Type	Year and Number of Units															
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	
Single Family House	1,106	833	636	252	360	156	—	593	—	218	109	—	—	—	—	
Row House	—	26	99	26	—	—	—	—	—	—	—	—	—	—	—	
Apartments	452	48	291	302	702	1,314	811	646	2,423	1,627	2,181	5,109	10,152	18,498	26,070	
Total	1,558	907	1,026	580	1,062	1,470	811	1,239	2,423	1,845	2,290	5,109	10,152	18,498	26,070	

Source: Korea National Housing Corporation

Financing is provided by funds generated by production, by loans from the Korea Housing Bank, foreign and international loans such as the USAID Housing Investment Guaranty Program and from the International Bank of Reconstruction and Development, and by government contributions. Since 1972, the Housing Construction Fund administered by the Korea Housing Bank has provided most of the financing. The total USAID program amounts to about \$90 million (43 billion won) to finance 20,000 units for sale. Table 2 shows the sources of financing of the corporations' production for 1976. Almost all units produced were sale or rental apartments, about 95 per cent; the latter were for low income occupants or Public Housing. Rentals acco-

counted for almost 27 per cent of total production, or 28 per cent of apartments in the Sales-Rental Category. These were of the 13 pyong type (455 sq. feet), hence low income. The 5,240 sales units, 20 per cent of the total, ranged from 13 pyong (456 sq. feet) to 26 pyong (910 sq. feet) and most 42 per cent were 23 pyong (805 sq. feet). The average cost of the rental units was 2,731 million won (\$5,462). The largest sale units were 11,101 million won (\$22,203 or \$34 per square foot), clearly not low cost housing. Even the unit cost of the income rental unit, about \$17 per square foot, including land and other costs, is not minimal housing. The standards for housing quality are relatively high, especially the durability of the structures and the neighborhood amenities, and should be maintained.

Low income rental housing built by the corporation has been financed largely by government contributions, National Housing Funds, discussed in

Table 2. Sources of Financing Korea National Housing Corporation 1976

million won (million \$ U.S.)

Type of Dwelling Unit	No. of Units	Gov't Contribution	Contribution Capital	National Housing Fund				USAID Guaranty Loans ⁽⁴⁾		
				Korea Housing Bank Lottery ⁽¹⁾	National Housing Bonds ⁽²⁾	Security Fund	TOTAL			
Rental & Sale Apartments	24,726	94.8%	7,500 (15.0)	7.5%	1,000 (2.0)	1.0%	10,314 (20.63)	10.3%	7,244 (14.5)	7.3%
Veteran Housing	450	1.7			565 (1.13)	52.2				
Military Housing	500	1.9					1,575 (3.15)	100		
Shopping Stores & Others	400	1.6								
Total	26,076	100	7,500 (15.0)	7.5	1,565 (3.13)	1.5	11,889 (23.78)	11.4	7,244 (14.5)	5.8

Type of Dwelling Unit	Other Gov't Agencies	K.N.H.C.Funds	Equity Downpay ⁽³⁾	Security Fund	TOTAL					
Rental & Sale Apartments	2,076 (4.15)	2.1%	25,988 (51.97)	26.0%	43,666 (87.33)	43.7%	2,100 (4.2)	2.1%	99,888 (199.7)	100%
Veteran Housing	518 (1.03)	47.8							1,083 (2.16)	100
Military Housing									1,575 (3.15)	100
Shopping Stores & Others					2,143 (4.286)	100.0			2,143 (4.286)	100
Total	2,594 (5.18)	2.5	25,988 (51.97)	26.0	45,809 (91.616)	43.7	2,100 (4.2)	2.1	104,689 (209.30)	

(1) terms-4 per cent per annum, 20 year repayment, 80% of construction cost.

(2) terms-8 per cent per annum, 15 year repayment, 80% of construction cost.

(3) by Investor or Owner

(4) terms-9 per cent per annum, 25 year repayment, 10 year grace period.

Source: Korea National Housing Corporation.

the next section, entrusted funds from other government entities, equity funds, and the corporations' funds. Units for sale have been largely financed by the National Housing Fund, or National Housing Bonds, the USAID Housing Guaranty Program, and owner-investor equity funds.

Housing for veterans and military personnel is a compensating subsidy to reward those who have served and are serving in the national armed forces, a policy used by many countries, including the U.S. These programs have been financed by National Housing Funds and other Government Agencies, i.e., entrusted funds.

Shopping facilities and other commercial structures have been largely financed with equity funds.

The Korea National Housing Corporation has become the major instrument for housing production for the central government, i.e., the Ministry of Construction, and also for Local Governments as well. The corporation has achieved a high degree of technical ability and production capability.

Housing Finance in the Public Sector: The Korea Housing Bank

The Korea Housing Bank was established in 1967 and is one of eight special financial institutions that have been created to finance goals of the Five-Year Economic Development Plans. The Bank is responsible for acquiring savings and other sources of loanable funds, and allocating these funds to housing programs of both the Public and Private Sectors. Due to a severe lack of financial resources, the Bank did not begin to be effective in meeting housing goals until 1972 when the implementation of the Ten Year Housing Program was begun, and the Housing Construction Promotion Act was put into effect. The Bank supplies, or rather administers, most of the housing construction finance requirements of the Public Sector and an increasing share of the Private Sector.

The Bank's operations are not largely relative to the overall financial system, but are essential for achieving housing goals. According to available data, the Bank has provided about a third of total investment in housing construction since 1970. In 1972, the Bank provided over 45 per cent, but by 1975 its share had declined to 30.3 per cent.⁽²⁾ The authorized capital is 10 billion won, about \$20 million, of which about 61 per cent has been paid

(2) These data are based on *Annual Reports* of the Korea Housing Bank, and *Major Statistics of the Korean Economy*, 1976, Economic Planning Board.

in. The government owns 71.5 per cent of the outstanding shares of capital stock, 22 per cent is owned by other banks, and 6.5 per cent is owned by insurance companies. To meet the housing targets of the fourth Five-Year Economic Development Plan, the Ministry of Finance recently announced plans to increase the Bank's capital to 50 billion won, about \$100 million, enabling an expansion of its financial resources. In addition, steps are being taken to simplify the complex deposit programs, and to expand other sources of funds. Because of the importance of the Bank to implementation of housing policy, a brief description of operations, or sources and uses of funds, is included here

Sources of Funds

The Bank has a variety of sources for mobilizing funds: demand deposits, time and savings accounts, debentures, government borrowing, a lottery scheme, government National Housing Bonds, and Capital and Reserves. Table 3 shows the amounts and percentage distribution of these sources from 1970 through October 1976. Table 4 has annual, not cumulative, data through 1975.

Demand Deposits

There are several types of deposit accounts, including Public Deposits for local government utility payments, Children's Deposits to promote thrift, and Pass Book accounts, the largest category. Although interest rates are low—from zero for checking accounts, to 1.8 per cent for Pass Book accounts, to 6 per cent for children's accounts—this source has increased six times since 1970, and provided about 18 per cent of total funds in 1976. This rather remarkable record may be explained by the usually high rate of domestic savings that has characterized the economy the last decade.

Time and Savings Accounts

These sources accounted for over 56 per cent of deposits in 1976, and almost 29 per cent of total funds. There are six types of accounts, each designed to attract and encourage savings from households and business firms. Interest rates vary among accounts, as do deposit or withdrawal requirements and maximum amounts. The highest rate is 33.2 per cent per annum for a Low Income Contract Savings Account with a five year savings deposit contract. Despite of this extraordinary interest rate for a savings

account, which is to encourage thrift among low income groups, deposits were less than a billion won (\$2 million) in 1976. The three year savings plan with an annual interest rate of 27.2 per cent per annum had almost 5 billion won (\$10 million) as of October, 1976. The trade-off of 6 per cent for two years of a savings contract is interesting. The largest account is Time Deposits, of which there are four programs, and interest rates range between 15 and 16 per cent per annum. These deposits have increased $5\frac{1}{2}$ times since 1970, but account for about the same proportion of total, loanable funds as in 1970.

Housing Installment Deposits

These deposits are contractual savings accounts, and are tied to loans for home ownership. Housing Installment Deposits (H.I.D.) are of two types, one pays 15 per cent interest; the other 9 per cent. The contract terms are 3 to 5 years and 20 years, respectively. A loan may be granted after a stipulated period for purchasing or building a dwelling unit, including the site. In 1976, a new plan was put into operation, the Salary and Wage Earners Formation Installment Saving Deposit Plan. This plan is a savings contract that is tied to a home loan. The program is limited to a monthly income of 250,000 won or less (\$500) and offers 3 and 5 year contracts with yields of 23.2 per cent to 27.2 per cent, and these can be increased to 25.8 per cent and 30.1 per cent, respectively, if certain conditions are met. After three years of monthly installment payments, the subscriber may borrow to build a home up to 70 per cent of construction costs for a 20 year term at 14 per cent annual interest, or for 10 years to purchase an existing house. An added incentive is an income tax subsidy for the subscriber as well as the house and site.

These two plans provided about 13 per cent of total deposits and approximately 5 per cent of total funds in 1976. They have increased $3\frac{1}{2}$ times since 1970.

Borrowings from Government

From 1967 through 1972 the Bank borrowed 7,714 million won from the government at no interest rate, and this source accounted for 12 per cent of loanable funds. In 1973, 2,590 million won were borrowed at 2 per cent per annum, and repayments of previous loans began. In 1975, 2,000 million won were borrowed at 4 per cent, repayable over 15 years, with a 5 year

grace period. As of late 1976, this source came to only 6 per cent of total funds, and have been used for the Private Sector.

Housing Debentures

The Bank is authorized to issue debentures for housing loans and repayment of matured debentures. These may be issued in amounts ranging from 500 won (about \$1) to 2 million won (\$4,000), with maturities of from 2 to 3 years, up to 20 times Capital and Reserves. Interest paid is tax exempt, and the debentures may be used as a deposit. They may be cashed after 6 months of issue, and repayment may be not only cash, but also by a lot or site, or a dwelling unit. Principal and interest is guaranteed by the government. The interest rates on 2 and 3 year maturities are 8.4 per cent if held less than 12 months, and 12 per cent if held over 12 months. However, because of substantially higher rates in the market, these debentures have been discounted to provide a higher yield. In 1975, the 2 year terms had an effective rate of almost 18 per cent, and the 3 year terms almost 20 per cent.

National Housing Bonds

Essential support for the Ten Year Housing Plan was provided in 1972 by the Housing Construction Promotion Law that authorized the Bank to issue, i.e., sell, National Housing Bonds to finance housing programs. Insurance is limited to the ceiling on debentures, and is subject to the authority

Table 3. Korea Housing Bank—Balance of Funds, 1970—1976 (billions of won)

Year	Deposits												Paid in Capital & Reserves				
	Total	Demand				(1) Housing Installment and Other				Borrowings from Gov't		(2) Housing Debentures		National Housing Bonds			
		Total	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%		Amount	%	Amount	%
1970	34,272	17,706	4,240	12	9,805	29	3,661	11	2,800	8	8,095	24				5,671	16
1971	47,189	23,753	6,051	13	14,102	30	3,600	8	5,800	12	11,587	24				6,049	13
1972	63,269	33,147	7,680	12	19,296	31	6,171	10	7,714	12	16,027	25				6,381	10
1973	91,360	44,515	13,567	15	23,621	26	7,327	8	10,270	11	19,734	22	10,425	11		6,417	7
1974	115,967	54,829	15,045	13	31,060	27	8,724	8	10,237	9	19,238	17	25,008	22		6,655	5
1975	145,907	67,143	21,975	15	35,451	24	9,717	7	12,170	8	16,319	11	43,500	30		6,775	5
1976 Oct.	186,958	93,361	27,506	18	53,982	29	11,873	5	12,080	6	14,688	7	57,894	31		8,935	4

(1) Paid in Installments.

(2) Balance Outstanding.

Source: *Monthly Economic Statistics*, Republic of Korea, Dec. 1976, p.41. *9th Annual Report*, Korea Housing Bank, 1975, p.47.

Table 4. Korea Housing Bank Sources and Uses of Funds Annually, 1970—1975 (billions of won)

Sources	1970	%	1971	%	1972	%	1973	%	1974	%	1975	%
Capital	100	0.9	290	2.0	300	1.1	—	—	—	—	—	—
Deposits (Gross)	6,622	58.3	5,738	39.4	9,267	32.4	10,463	35.6	10,128	28.5	12,586	29.0
Housing Debentures(1)	2,298	20.2	3,491	24.0	12,061	42.2	7,211	24.5	7,025	19.0	6,785	15.7
National Housing Bonds							9,347	31.8	14,600	41.1	18,168	41.9
Housing Lotteries (2)	222	2.0	2,000	13.7	741	2.6	1,335	4.5	1,937	5.5	2,116	4.9
Borrowing from Gov't	800	7.0	1,000	6.9	1,400	4.9	2,590	8.8	—	—	2,000	4.6
Other & Adjustments(3)	1,319	11.6	2,044	14.0	4,793	16.8	(1,532)	(5.2)	1,813	5.1	1,687	3.9
Total	11,361	100.0	14,563	100.0	28,562	100.0	29,414	100.0	35,503	100.0	43,342	100.0
Capital & Reserves	5,671		6,049		6,381		6,417		6,655		6,775	

Source: 9th Annual Report, Korea Housing Bank, 1975.
 B.N. Song and R.J. Struyk, *Korean Housing Economic Appraisal and Policy Alternatives*, Korea Development Institute, 1976.

Uses	1970	%	1971	%	1972	%	1973	%	1974	%	1975	%
Loans From National Housing Fund:												
Local Government							8,287	28.2	17,849	50.3	22,636	52.2
Korea National Housing Corporation							4,883	16.6	13,003	36.6	13,884	32.0
Private Sector							1,498	5.1	3,183	9.0	3,483	8.0
Loans for Lottery Housing:	185	1.6	319	2.2	600	2.1	1,906	6.5	1,664	4.7	5,269	12.2
Local Government							642	2.2	2,880	8.1	1,955	4.5
Korea National Housing Corporation							326	1.1	177	0.5	895	2.1
Loans for Private Sector	4,350	38.3	9,697	66.6	13,591	47.6	13,405	45.6	8,412	23.7	11,334	26.2
Loans for Public Housing	784	6.9	564	3.9	1,137	4.0	149	0.5	35	0.1	13	0.0
Loans for Housing Sites	592	5.2	573	3.9	202	0.7	5	0.0	—	—	—	—
Loans for Housing Materials	4	0.1	32	0.2	—	—	—	—	—	—	—	—
Other(4)	5,446	47.9	33,378	23.2	13,032	45.6	6,926	23.5	6,227	17.5	7,404	17.1
Total	11,361	100.0	14,563	100.0	28,562	100.0	29,414	100.0	35,503	100.0	43,342	100.0

(1) Debentures Issued. (2) Fund Raised. (3) "Loans Collected" and Adjustment for Debenture Repayment and Deposit Withdrawal.
 (4) Includes Commercial Loans.

of the Ministry of Construction. The government guarantees payment of principal and interest. As Table 3 shows, these are the most important source of loanable funds; in 1975 and 1976 they accounted for over 30 per cent of total funds. Since 1973, the amount has increased about 6 times. The bonds are redeemable in 5 years, and have an effective annual interest rate of 6.745 per cent. Inasmuch as repayment is not due until 1978, the Bank has had use of the total collected. However, beginning in 1978, the repayment schedule will reduce loanable funds unless new issues are sufficient to replace those repaid. These bonds are compulsory purchases for business firms and individuals according to a proscribed list of licenses, permits and registrations, and in amounts proportional to the transaction. Examples are Registration of Real Estate, Building Permits, Telephone Installation Permits, Grocery Business Permits, Entertainment Business Licenses, Gambling Permits, and many others. In early 1977, eight additional transactions were added, including licenses for overseas construction, and on automobile purchase (from 20,000 won to 2.3 million won). In addition, required purchases were increased by 20 to 100 per cent. These purchases are a form of tax for the difference between the market and contract rate of interest. Like deposits, proceeds vary with business activity of the purchases, and the flow is not a function of the demand for loanable funds.

Paid in Capital and Reserves

Paid in capital has not been increased since 1972, but reserves have been accumulating from earnings and profits. As was pointed out earlier, the Ministry of Finance plans to increase capitalization by 5 times, to billion won (\$100 million). Although net earnings, hence retained earnings, are not as high as a commercial enterprise they are substantial considering the responsibilities of and the mandate to the Bank to finance housing programs to reach national targets.

Housing Lottery

Raising funds by lottery is unconventional banking practice, and is something of an experiment since 1969. Table 4 shows the amounts raised annually since 1970. The Bank is authorized to issue housing lottery tickets, and the 302nd issue during 1975 sold 1,200,000 tickets at 100 won each for a gross of 120 million won (\$240,000). Lottery prizes were one for 9 million (\$18,000) to 240,000 for 100 won each, for a total of about 50 per cent of

the gross. After other expenses, about 36 percent of the gross was allocated to housing programs. These programs are for low income groups, and are used by the Korea National Housing Corporation and Local Government.

Uses of Funds

The other side of the figurative coin from sources of funds is their use. The Bank has financed a large number of housing programs under its mandate to finance housing objectives. Table 5 shows the total allocations to date from 1970 and Table 4 has the annual allocation

National Housing Construction Fund

These loans are pursuant to the Housing Construction Promotion Law of December 31, 1972. As shown in Table 5, this use has increased rapidly since 1973, from 11 per cent of loans made to 39 per cent in 1975. Table 4 shows that this fund provides financing for the programs of the Korea National Housing Corporation and Local Government, and amounted to about 52 per cent of loans made in 1975. By 1975, the Special City of Seoul had been loaned over 51 per cent of the total amount allocated to Local Government, and Pusan, the second largest city, had been loaned almost 1.7 per cent. Over two thirds of total loans made to date from this fund available to Local Government had been made to the two largest cities, and indication of their growth.

The Korea National Housing Corporation finances most of its output from this fund. In 1975, loans to the corporation accounted for 8 per cent of the Bank total from this fund. When the Housing Lottery fund is included, the Korea National Housing Corporation is the second largest user of these special funds. The Private Sector is included in this category because a part of the housing program of the Korea National Housing Corporation is awarded to private contractors who bid on eligible projects. The minimum size project is 100 dwelling units. The proportion of the fund going to the Private Sector has increased substantially since 1973, and accounted for over 12 per cent of the total in 1975, exclusive of Loans for the Private Sector in Table 3. In 1975, 31 firms received these construction loans and built 4,799 apartment units.

Loans for Lottery Housing Programs

These funds are to build dwelling units for low income occupants, at 4-

per cent interest, and a term of 14 years. The units are built by the Korea National Housing Corporation.

Loans for the Private Sector

Table 4 and 5 clearly show that the Bank has strongly supported the Private Sector, especially before 1973. Table 5 has data for this use that does not include National Housing Funds. The amount loaned has decreased from a high of 67 per cent in 1971 to about 26 per cent in 1975, but the absolute amount has increased by almost 20 per cent. This category includes funds from contract savings programs such as Housing Installment Deposits, as well as Borrowings from Government. These loans include buyer as well as construction loans, and the Bank has given preference to employees of "honest tax return" companies, and government agencies and enterprises.

Loans for Public Housing

Public housing is rental housing for low income and "homeless" households. The program began in 1962 by appropriations to the Public Housing Fund by the Ministry of Construction. Bank funds for this loan category come from National Housing Bonds, Housing Lotteries, as well as Borrowing from Government. The amount allocated to this use as well as the percentage of total funds has declined as other programs have been developed.

Loans for Housing Sites and Materials

These loans have been declining, and the program is no longer viable

Table 5. Uses of Funds—Korea Housing Bank, (1970—1976)
(billions of won and percentage distribution)

Year	Total Funds	Categories of Fund Uses (1)											
		National Housing Fund		Private Housing		Public Housing		Housing Sites & Materials		Lottery Housing Program		Commercial & Other	
		Am't.	%	Am't.	%	Am't.	%	Am't.	%	Am't.	%	Am't.	%
1970	27,521			18,980	69	4,235	16	997	3	185	1	3,124	11
1971	38,551			27,861	74	4,474	12	1,253	1	492	1	4,471	12
1972	54,515			39,092	74	5,222	10	722	1	1,012	2	6,053	13
1973	75,275	8,285	11	49,277	67	4,886	7	526	0	1,311	2	8,676	13
1974	99,114	28,581	29	53,053	55	5,627	6	39	0	1,276	1	8,125	9
1975	132,074	51,790	39	60,834	47	5,402	4	9	0	1,240	1	10,385	9
1976 Oct.	168,420					155,233						13,187	(2)

(1) See text for description

(2) Category amounts unavailable

Source: 9th Annual Report, p. 63. Monthly Economic Statistics, Dec. 1976, Korea Housing Bank, Republic of Korea, p. 41.

since the National Housing Construction Program. The purpose was to help finance self-help housing for low income groups.

Other Loans

This category includes commercial loans as well as subscriptions to the National Investment Fund. In Table 4 it also includes adjustments for repayment of debentures and changes in deposits.

Housing Finance in the Private Sector

In contrast to the Korea Housing Bank, housing finance in the Private Sector is relatively disorganized. In fact, there is no housing finance by use of long term loans to home owners, so that "mortgage finance" is unavailable. As was stated earlier, the role of the Korea Housing Bank is to establish such a system of home ownership financing.

The central bank in Korea is the Bank of Korea, and is under the control of the Ministry of Finance. Like other central banks, the Bank of Korea carries out the monetary policy of the government as well as funding fiscal policies, e.g., government securities. The banking system is largely operated by the government through a Monetary Board that includes representatives of the Ministry of Finance, the Economic Planning Board, the Bank of Korea, and representatives from other banks and industry. To cope with the financing requirements of rapid growth and the targets of the Five-Year Plans, eight special banks have been organized of which the Korea Housing Bank is one. These banks finance exports, industrial development, agricultural cooperatives, small and medium business, etc., and are largely funded and controlled by government. Commercial banks consist of nation wide banks, local banks, a trust bank, and several foreign banks. The largest are the nation wide banks, which are located in Seoul and are largely controlled by government. None of these banks makes long term loans for home ownership, nor has the central bank done anything to encourage such lending. Commercial banking at its present stage is almost entirely a source of short term loans for business, industry, and government. Interest rates are controlled by the Monetary Board in accordance with the targets of the sectors of the economy. Life insurance companies are not of sufficient strength to be a significant source of housing finance, and do not at present make housing loans.

Consequently, home owners must somehow acquire capital equivalent to

the cost of a dwelling unit from other sources before purchase and ownership, unless a loan can be gotten at the Korea Housing Bank.

Sources and uses of funds for housing are well documented in the Public Sector by the Ministry of Construction, the Korea Housing Bank, and the Korea National Housing Corporation. Such data for the Private Sector are tenuous, although they are becoming more available from building permits, contractors licenses and reports, bank loans and other sources, and are likely to understate investment and output.

Table 6 has some interesting data on sources of housing finance taken from a survey by the Korea Development Institute in January 1976. These data are startling to those accustomed to the highly organized and developed housing finance systems of the U.S., Canada, Great Britain and other western countries. These data cannot be analyzed in a savings-investment format because the institutional form of savings is unknown. They may be in a savings account, cash, or invested in the curb market, the source of "usury" funds. In Table 6, "key" funds are largely invested in that market also, where interest rates exceed 3.5 per cent per month.⁽³⁾ "Trading up" seems to be a major source of funding for those who own a house, for sale of real estate is the major source of equity funds and a sure sign of rapidly rising real estate values and prices. A similar survey taken in 1974 used different groups, i.e., "Big Cities", "Other Urban Areas" and "Total Urban Areas".⁽⁴⁾ In that survey, Borrowed Funds were 15 per cent of housing investment for the nation, and 8 per cent in "Big Cities". Only 8 per cent of these funds were Bank Loans: 3.3 per cent in Big Cities. Comparison of the two surveys suggests that borrowing from banks has increased, but is still a minor source of housing finance for a large segment of the market. The role of a specialized housing bank such as the Korea Housing Bank is critical for a stable and dependable source of housing funds.

A survey of building contractors taken in 1975 shows that construction loans for single family houses required 50 per cent equity; almost 60 per cent for multifamily units. The data are in Table 7, and show the re-

(3) "Key" funds are lump-sum payments to the landlord in lieu of rent. Interest earned pays rent, and the sum is returned at the end up the lease.

(4) *Study on Housing Policy Formulation*, 1974, Korea Industrial Development Research Institute, pp.47-72.

Table 6. Private Sector, Sources of Funds for Housing Purchase

Fund Source	Borrowers		
	(1) Owning House	(2) Renting	(3) Borrowing on Housing Loans
Equity Key Funds (4)	1.9	13.2	4.5
Sale of Real Estate	71.0	10.2	51.5
Savings	14.8	39.9	13.3
Donations of Friends	2.3	6.2	2.4
Others	0.7	1.5	0.9
Total	90.7	71.0	72.6
Borrowed Bank Loans	6.5	21.3	23.2
Usury(5)	0.9	1.0	1.6
Salary Advance	0.1	0.1	—
Other	1.8	6.6	2.6
Total	9.3	29.0	27.4
Total	100.0	100.0	100.0

Source: *Study on Raising Housing Funds and Housing Financing System*, Korea National Housing Corporation, 1976.

(1) House buyers who owned a house.

(2) House buyers who were renting.

(3) House buyers who had borrowed specific housing loans.

(4) Key funds are deposits paid in lieu of rent. Interest earned on such funds invested by the landlord is equivalent to rent, and the principal is returned at the end of the rental agreement.

(5) Usury applies to "curb market" loans.

Table 7. Sources of Construction funds for Private Constructors, 1975

	Percent of Total	
	Single Family Dwelling	Apartment
Own Funds	50.0	59.7
Borrowed Funds	50.0	40.3
Bank Loans	18.1	13.7
Bank Drafts	22.1	17.1
Usury	4.5	1.5
Other	5.3	8.0
Total	100.0	100.0

Source: *Study on Raising Housing Funds and Housing Financing System*, Korea National Housing Corporation, 1976.

course to internal funds, i.e., "own funds" by the construction industry. Construction bank loans were only 18 and 13 per cent for single family houses and apartments, respectively. The source of "own funds" was not

revealed, but if they represent working capital, these companies are exceptionally solvent or are under very great financial strain. Studies of the industry suggest the latter situation. "Usury" funds are borrowed from the curb market, the informal or non-institutional market for finance that is characteristic of a developing economy. It is informal in the sense that it is not controlled by legislation and regulatory agencies of government. Unlike financial institutions of an organized financial system, the curb market is not concerned with fiduciary responsibilities such as accounting for loans to depositors; there are no depositors, only investors. These are groups who voluntarily pool funds by subscribing to a contribution for short period, e.g., a year. Pooled funds are loaned for a short term at high rates of interest, e.g., 3.5 to 4.0 per month, and higher depending on the amount loaned and the borrower. "Key" funds are "consumer" type loans and are a likely source for a portion of housing purchase, as well as "Chonse" or key money for rental housing. Building firms also borrow in this market at annual rate of 36 per cent.

In spite of this severe financial limitation, the Private Sector has built over 70 per cent of the dwelling units constructed since 1962.

III. Achievement Standards and the Record

The previous section has described an institutional structure that has been created and developed to achieve explicit housing investment and output targets. This structure includes tax incentives and other inducements to the Private Sector, and government supported institutions such as the Ministry of Construction, the Korea National Housing Corporation, and the Korea Housing Bank. How well has this structure and system performed relative to the goals, objectives, and targets of the five-year Economic Development Plans?

The goal of housing plans is to provide for the social welfare of the people, especially for low income groups. The purpose or goal of the Housing Construction Promotion Law was to increase the supply of housing for the "houseless", and most of these cannot afford to own their own home, or ever rent suitable housing. The mission of the Korea National Housing Corporation is "to contribute to the stabilization of the nation's living

standard and the promotion of well-being by constructing, providing, and managing housing as well as eliminating slums". The Korea Housing Bank's purpose is to provide assistance for low income and middle income households in securing housing.⁽⁵⁾ These broad goals have been specified by five-year housing targets annually projected. The first and second Plans perforce were attempts to meet the emergency conditions following the war and the intervening period of readjustment, and were not formulated on the basis of long term growth and development. The just completed third Plan was much better articulated with economic conditions and longer term objectives. Rigorous evaluation of achievement of welfare goals, e.g., a benefit-cost analysis model, is beyond the scope of this article. Extant analyses of housing policies are largely concerned with housing finance in the Private Sector, and reference to them is made in the following sections. Three criteria or standards of achievement will be discussed: 1) Housing Output and Investment, 2) the Housing Shortage Ratio, and 3) Housing Capital Formation as a Proportion of National Output and Investment.

These macro or aggregate quantities are measures of production and investment. The first, Housing Output and Investment, is measured by the Achievement Ratio, the proportion of actual or ex-post, is of target or planned. The second, the Housing Shortage Ratio, is an indicator of housing need, the ratio of the number of households without dwelling units to the total number of households. The third is a measure of the relative priority of the housing sector in the national economy.

Housing Output and Investment Relative to Plans and Targets

The results of the allocation of capital resources via the institutional framework are shown by the data in Table 8. The first Plan, 1962-1966, did not specify annual or five-year housing targets. At that time housing was of lower priority than in succeeding Plans, and relative to the development of an industrial base and the export sector. During this formative period, 325,900 dwelling units were built, of which almost 88 per cent were by the Private Sector, which accounted for about 92 per cent of housing investment, or 58.1 billion won (\$116 million). The Public Sector consisted mostly

(5) Goals and policies have been analyzed in several studies: *A Study on Raising of Housing Funds and the Housing Finance System*, Korea National Housing Corp. pp.76; *Economic Appraisal and Policy Alternatives*, Korea Development Institute, 1976; *A Study on Housing Policy Formulation*, Korea Industrial Development Institute, 1974.

of the Public Housing Program. As urbanization increased, and the resulting housing shortage become more acute, targets were set and priorities adjusted. Both the Public and Private Sectors responded, and the second Plan targets were exceeded. The Achievement Ratio was 1.08, that is, the ratio of actual or achieved relative to planned or the target. The Private Sector target was 470,000 units, but 462,000 units were built, for an Achievement Ratio of 98 per cent of target. The Public Sector had a remarkable Achievement Ratio of 2.32, over twice the planned target. This result suggests that during the execution of the Plan, the targets of the Korea National Housing Corporation and Local Government were substantially increased and the necessary resources allocated. It is to be noted that the increased output was only 69,600 units, while the Private Sector provided 462,000 units, or about 7 times as many.

The record of the third Plan may be more significant, for by the beginning in 1972 the institutional apparatus had been organized and in operation i.e., the Korea Housing Bank, and the Korea National Housing Corporation, as well as the Housing Construction Promotion legislation. Targets for both sectors were substantially increased to a total of 935,200 units. Even this target, larger than previous Plans, was less than the Ten Year Housing Plan 1,116,000 units. The Public Sector, i.e., the Korea Housing Bank, Korea National Housing Corporation and Local Government, was assigned about 28 per cent of the target, a considerable increase from the 6 per cent for the second Plan. The past five years have been characterized not only by economic growth, but also by rising energy and other import prices and a decline in the international economy. The overall Achievement Ratio was 81 per cent; 87 per cent for the Public Sector and 81 per cent for the Private Sector. The planned housing output for the Public Sector in 1972 was 14,200 units, 10.5 per cent of the total, note Table 8. The Private Sector was scheduled to build 121,000 units or 89.5 per cent of the total. However, actual output by the Public Sector was 17,500 units for an Achievement Ratio of 1.25. The Private Sector fell short with an Achievement Ratio of only 77 per cent. The succeeding years saw a reapportionment of the output mix, as the Public Sector's share of planned was increased to 30 per cent in 1973 reduced to 24 per cent in 1976, and increased to about 35 per cent for the next two years. The Private Sector's share was reduced

Table 8. Housing Output and Investment, Targets and Achievement, 1962-1976

Housing Construction	62-66	67-71	72	73	74	75	76	72-76
Public Sector (··· units)								
Planned		30.0	14.2	51.0	50.0	70.0	74.0	259.2
% Total		6.0	10.5	30.0	23.8	35.0	33.6	27.7
Achieved	39.9	69.6	17.5	43.5	43.0	62.8	61.0	227.6
% Total	12.2	14.5	15.9	30.4	23.8	33.2	35.6	29.5
Achievement Ratio (1)		2.32	1.25	.84	.86	.90	.82	.88
Private Sector								
Planned		470.0	121.0	119.0	160.0	130.0	136.0	666.0
% Total		94.0	89.5	70.0	76.2	65.0	66.4	72.3
Achieved	286.0	462.0	92.5	99.2	115.1	117.3	110.0	534.0
% Total	87.8	85.5	84.5	69.6	57.0	66.8	64.4	70.5
Achievement Ratio(1)		.98	.77	.83	.72	.90	.82	.81
Total Planned		500.0	135.2	170.0	210.0	200.0	220.0	935.2
Total Achieved	325.9	540.2	110.0	192.4	158.1	188.9	171.0	761.6
Achieved Ratio (1)		1.08	.813	.84	.75	.94	.77	.814
Housing Invest Public Sector (billion won)								
Planned			19.0	40.0	41.0	74.0	80.0	254.0
%			12.8	20.0	10.5	22.6	26.9	19.6
Achieved	4.6	38.34	15.6	32.7	78.8	151.5	112.8	390.9
%	8.0		11.1	15.0	25.4	33.6	27.3	22.0
Achievement Ratio (1)			.82	.82	1.93	2.04	1.41	1.54
Private Sector								
Planned		238.8	129.0	160.0	207.0	252.0	297.0	1,045.0
%		86.2	87.2	80.0	83.5	77.4	73.1	80.4
Achieved	53.5	283.8	129.0	184.4	233.1	298.1	300.0	1,144.5
%	92.0		88.9	85.0	74.6	66.4	72.7	78.0
Achievement Ratio (1)			1.0	1.15	1.12	1.18	1.01	1.09
Total Planned			148.0	200.0	248.0	326.0	297.0	1,299.0
Total Achieved	58.1	321.5	144.2	217.1	311.8	449.6	412.8	1,535.5
Achievement Ratio (1)			.97	1.08	1.26	1.38	1.40	1.18

(1) Achievement Ratio is $\frac{\text{Achieved}}{\text{Planned}}$.

Source : *Seventh, Eighth Annual Reports*, 1973, 1974, Korea Housing Bank; Kim An-Jae, "Impacts of Housing Investment on Economic Growth and Welfare," *Third Symposium on Housing Problems: Housing Investment and National Welfare*, Dec. 1976.

accordingly, although its proportion averaged about 70 per cent of total. These variations reflect strategy to meet housing objectives, and show an increased allocation of output to the Public Sector to meet the needs of low income and other target groups. However, actual output did not meet targets

from 1973 through 1976 for either sector. The causes of the relatively low Achievement Ratio during the Third Plan are not apparent, and are numerous and complex. Perhaps the targets were too high for production capability. Or, it may be financial resources were inadequately budgeted. Table 8 shows that 1,299 billion won (\$260 million) were allocated by the Plan, or 1,389 million won per unit average. Actual investment exceeded planned in the Public Sector by over 50 per cent and was above target for the Private Sector by 9 per cent. The investment Achievement Ratio was 1.18 per cent. Inasmuch as both sectors had output Achievement Ratios for the five year period of 81 per cent, it appears the mix of housing produced exceeded the average cost, so that output was less than planned. In turn, the higher planned cost may be due to inflation of the period, for all construction costs have increased, and land values have risen considerably. On an annual basis, the data indicate the Achievement Ratios for housing investment were lowest at the beginning of the period, especially in 1972. Thereafter the Public Sector Achieved Investment exceeded planned as the Government put into effect the programs described in the previous section.

If the Achievement Ratio is used to measure the success of the housing sector of the two Five-Year Plans, then the second clearly was more successful than the third. However, none of the plans are a standard of success. The vicissitudes of the economy make fine tuning planning all but impossible, especially if the Private Sector is assigned a significant part of the target. Single valued targets imply a probability, and the chances of meeting the housing targets of the Development Plans in Table 8 were not estimated.

What impact did the production and investment in housing during the three Plans have on the housing shortage of the country? The next section discusses this criterion.

The Housing Shortage Ratio

Studies and reports on the housing situation in the Republic of Korea frequently cite the housing shortage as the basis of proposed housing policy and programs, and the Housing Shortage Ratio as a relative measure.⁽⁶⁾ Housing Shortage is the difference between the number of households and

(6) *Study on Housing Policy Formulation*, p.17; *National Land Development Plan, 1972-1981*, Government of the Republic of Korea, 1971, pp.119-122.

the number of dwelling units, usually measured an annual basis. The Housing Shortage Ratio is the proportion or per cent the Housing Shortage is of households:

H = number of households

H_d = total population divided by the average number of persons per household, both empirically estimated

D_u = houses or dwelling units, an annual total

S_h = Housing Shortage

$$= H_{dt} - D_{ut}$$

t = a year, e.g., 1977

R_{ht} = Housing Shortage Ratio

$$R_{ht} = \frac{S_{ht}}{H_{dt}}$$

Households are estimated from dicennial populations census, and projections of demographic changes in the population. Household formation is culturally and economically determined. The transition of the “extended” family to the “nuclear” family has been widely noted, and is a very significant determinant of the increase in households. Urbanization and industrialization are the causes of the continuing change in Korea’s family structure.

Table 9. Average Household Size (number of persons), Republic of Korea

	1961	1966	1971	1976	1981
Republic of Korea	5.95	5.94	5.64	5.27	4.64
Large Cities	5.48	5.22	5.07	4.72	3.96
Other Urban Areas	6.58	5.50	5.42	5.01	4.46
Rural Areas	5.96	6.29	6.00	5.80	5.45
No. of Households (···)	4,287	4,917	5,650	6,526	7,940

Source: *Study on Housing Policy Formulation*, Korea Industrial Development Institute, 1974, p.216

Table 9 shows the average number of persons per household from 1961 through an estimate for 1981. The decline in the average size of the household to 4.64 persons by 1981 is a substantial change from the 1960’s when the country’s economic development begun to accelerate. More striking is the projected size for large cities, i.e., Seoul and Pusan, 3.96 persons, a size that is comparable to the urban household of developed economies.

The number of dwelling units is estimated from the dicennial Population.

and Housing Census. The first such census was conducted in 1970, and is used as a benchmark. The housing stock on an annual basis is estimated by adding new construction or additions, based on building permits, and deducting removals from destruction, e.g., fire and conversions. Accounting is also made of needed replacements due to obsolescence and deterioration, both due largely to age. Data for housing stock estimates are currently tenuous inasmuch as data from the Housing Census, building permits, and for deletions and replacements are not considered very reliable.⁽⁷⁾ Housing output by the Public Sector is well documented, but that by the Private Sector is not.

The Housing Shortage Ratio depends on the change in households and net additions to the housing stock. The Ratio can vary from zero if every household occupies a socially acceptable dwelling unit to 100 per cent if no household has such a residence. The Ratio is somewhat confusing because the Housing Shortage, i.e., number of households less number of dwelling units, implies that the difference is “houseless” households who haven’t any sort of shelter. It appears that “houseless” households are sharing or doubling up with a house owner. Accordingly, a crowding or density measure is an important adjunct to the Ratio. However, recent data are not currently available. Of the 4,360,000 dwelling units in the 1970 Census, 66.48 per cent had 2 or 3 rooms, over 56 per cent were built before 1950, many are of obsolete construction, and many are not connected to utilities. The average number of persons per room was 2.97, indicating high density. Table 10 shows the Housing Shortage Ratio from 1962 through 1976. Until 1972, the output of dwelling units lagged the need for housing in terms of household formation and housing replacement. During the third Plan, which included the Ten Year Housing Plan, the rate was reduced to an annual average of 21.7 percent from 26.2 per cent during 1967-1972. In urban areas, especially in large cities, the Ratio has been much greater; in 1967 it was almost 50 per cent. In 1973, and 1975 in “Big Cities”, the Ratio had been reduced to about 47 per cent; the rural area Ratio was only 7.4 per cent. Clearly, the lag in housing supply is an urban problem, and housing programs have been almost entirely for urban housing. The government has set a long range goal of a house for each household, that is, a Housing

(7) The Ministry of Construction estimates the output of the Private Sector by the increase in households, building permits, recent construction trends, and the existing stock.

Shortage Ratio of zero. However, a zero rate was not a target for the completed five year Development Plans. Since 1972, the Ratio has been considerably reduced from 26.2 per cent for 1967-1971 to 21.7 per cent for 1972-1976. Over 1.6 million dwelling units were built by the end of the third Plan, a commendable achievement considering the rapid urbanization and increase in households during this time.

Housing Capital Formation as a Proportion of National Output and Investment

The third criterion is a measure of national priorities: the expenditures on housing output as a proportion of total expenditures, or Gross National Product, and of total investment, or Gross Domestic Capital Formation. The data in Table 11 permit intertemporal comparisons, that is, over time, from 1967 through 1976.

Table 10. Housing Shortage Ratio (1) 1962-1976.

Year	1962	1963	1964	1965	1966	1962-1966	1967	1968	1969
Shortage Ratio	22.4	23.2	29.2	25.9	25.3	25.2	25.4	26.0	26.3
Year	1970	1971	1967-1971	1972	1973	1974	1975	1976	1972-1976
Shortage Ratio	26.5	26.6	26.2	22.2	22.0	21.8	21.5	21.1	21.7

(1) R =Shortage Ratio

H =Number of Households

D =Housing Stock

$$R = \frac{H-D}{H}$$

Source: *Proceedings of the 4th Seminar on Housing and National Development*, Dec. 1976

Kim An Jae, "Impacts of Housing Investment on Economic Growth & National Welfare," pp.73, 74, 75.

The rapid expansion of the economy has been briefly discussed in the Introduction. Table 11 shows the rate of growth of G.N.P. in constant 1970 prices as well as the amount in current prices. During the first Plan, the economy expanded at an average annual rate of 7.7 per cent. During the second Plan, the annual rate was a remarkable 10.5 per cent, and the third Plan had an extraordinary rate of 11.2 per cent. This is even more impressive if note is taken of the increased size of the base, the absolute level of G.N.P. as shown in Table 11. Moreover, compared to many other countries, including the U.S., Japan, United Kingdom, and France, the rate has been high as well as stable. For example, all of these economies had nega-

tive real rates of growth of G.N.P. in 1975, except Japan's 2.2 per cent, but the Republic of Korea's was a respectable 8.0 per cent. It was an extraordinary 16.7 per cent in 1973. ⁽⁸⁾

Housing investment as a per cent of G.N.P. increased from an annual average of 1.6 during the first Plan to 2.8 for the second Plan, and to 4.2 per cent for the third Plan. During 1974 and 1975, the ratio was about 5 per cent, comparable to the U.S. average for 1971-1973, and greater than the 3.3 per cent and 2.9 per cent for 1974 and 1975. ⁽⁹⁾

Gross Domestic Capital Formation includes expenditures on dwelling units, other residential construction, other construction, transport equipment, machinery and other equipment, and changes in stocks or inventory. The

Table 11. Housing Investment, Gross National Product, Gross Domestic Capital Formation, and the National Savings Rate, 1962-1966, 1967-1976. Republic of Korea
(billion won)

	Annual Average 1962-66	1967	1968	1969	1970	1971
Housing Investment (current prices)	11.6	28.0	49.0	55.0	88.0	101
GNP (current prices)	—	1,270	1,598	2,082	2,509	3,152
Annual Rate of Change	26.0	23.0	26.0	25.0	24.0	22.0
Annual Rate of Change (1970 prices)	7.7	8.0	13.0	15.0	8.0	9.0
Housing Investment as Percent of GNP	1.6	2.1	3.0	2.6	3.4	3.4
Gross Domestic Capital Formation, Percent of GNP	25.0	22.1	26.8	25.8	27.2	25.6
Housing Investment, Percent of GDCF	10.2	10.0	11.4	8.9	12.5	12.6
National Savings, Percent of GNP	5.7	12.0	13.7	7.5	16.3	14.5
GDCF as a Percent of National Savings	48.0	48.7	41.9	49.5	45.3	10.4

	Annual Average 1967-71	1972	1973	1974	1975	1976	Annual Average 1972-76
Housing Investment (current prices)	63.0	105	158	299	402	367	266
GNP (current prices)	—	3,860	4,901	6,747	9,080	12,108	—
Annual Rate of Change	24.0	22.0	27.0	38.0	35.0	35.0	31.4
Annual Rate of Change (1970 prices)	10.5	7.0	17.0	9.0	8.0	15.0	11.2
Housing Investment as Percent of GNP	2.8	3.7	4.4	4.6	5.0	3.4	4.2
Gross Domestic Capital Formation, Percent of GNP	25.5	20.9	26.3	31.2	27.2	25.0	26.1
Housing Investment, Percent of GDCF	11.2	13.0	12.3	14.2	16.2	16.0	14.5
National Savings, Percent of GNP	15.0	15.0	22.0	19.3	18.0	21.0	19.0
GDCF as a Percent of National Savings	45.2	45.6	58.2	37.7	40.1	A.a	45.5

Source: *Major Statistics of Korean Economy*, 1976, Economic Planning Board.

(8) *Major Statistics of the Korean Economy*, 1976, Economic Planning Board, p.40.

(9) For Private Residential Construction which was about 99 per cent of Total Residential Construction. In 1970 the Republic of Korea ratio was 3.2; Japan's was 7.1; England 3.5; France 6.8; Singapore 3.8.

average, annual rate, i.e., relative to G.N.P., has been about 25 per cent, and went as high as a remarkable 31 per cent in 1974.

About half of this high level of investment was financed by national domestic savings; almost 48 per cent during the first Plan and about 45 per cent during the second and third. The balance of funding came from capital consumption allowances, if reinvested, disinvestment otherwise, and credit from foreign sources. The savings rate during the second and third plans was high relative to developed economies, an average of 15 and 19 per cent per annum, respectively.

Housing investment, a component of Gross Domestic Capital Formation, has increased in line with G.N.P., from 11.6 billion won average annual amount during the first Plan, to 63 billion won and 266 billion won, in current prices, during the second and third Plans.

Table 11 shows that housing investment as a proportion of Gross Domestic Capital Formation increased from 10.2 per cent for the first Plan to 11.2 per cent for the second Plan, and the 14.5 per cent for the third Plan. Comparison with other countries is difficult because of differences in investment measures. For example, the U.S. annual average per cent Gross Private Domestic Investment of G.N.P. between 1971 and 1975 was about 15 per cent. If Private Domestic Capital Formation in Korea consists of Private and Public Enterprise plus Increase in Stocks, the average annual percentage is about 22 per cent. Private Residential Construction in Korea, as a per cent of private investment averaged about 14 per cent. In the U.S. the average was about 25 per cent during this period. However, Public Sector Housing was about 24 per cent of total new construction in Korea and only 0.876 per cent in the U.S. The data are not comparable not only because of classification differences, but the scale of the economies further complicates the comparison.

Intertemporal Comparisons of the Three Criteria

Table 12 shows the three criteria for each of the five year Economic Development Plans. These data indicate considerable success by the end of the third Plan in achieving housing sector targets. Although output was below planned, investment by the Public and Private Sectors exceeded target, and the Housing Shortage Ratio was reduced, although household formation and urbanization continued to increase. These achievements were

met by increasing the allocation of expenditures and investment, both absolute amount and relative share, as shown by housing investment. These data are aggregate measures, and do not measure the distributional effects of housing programs, that is, microtargets.

Achievement of Microtargets

Housing goals, as indicated by housing policy, include distributional targets such as income groups and urban-rural location to achieve “balanced” growth. Data to measure the effectiveness of this policy were not available in a suitable format at the time of writing this paper. The exigencies of the market have resulted in the predominance of “middle” income housing, both ownership and rental,⁽¹⁰⁾ even for dwelling units with minimum area for low income groups. Undoubtedly, Private Sector housing, including company built for employees, has been mostly for middle and upper income, except those built under the control of the Korea National Housing Corporation. Financing programs do not appear to be designed for low income purchase, except for the special savings programs of the Korea Housing Bank and the Lottery Fund. For example, housing for sale built by the Corporation required an average downpayment of 31 per cent. The smallest unit, 13 pyong or about 455 square feet, required 53 per cent down, but the largest unit of 25 pyong, or 875 square feet, required only 18 per cent down or equity.

Public Housing has been used mostly for relocation of low income occu-

Table 12, Achievement Ratios, Housing Shortage Ratios, and Housing Investment Percentages for the First, Second, and Third Five-Year Economic Development Plans, Republic of Korea

	First Plan 1962-1966	Second Plan 1967-1971	Third Plan 1972-1976
(1) Achievement Ratio			
Output	—	1.08	.814
Investment	—	—	1.18
(2) Housing Shortage Ratio	25.2	26.2	21.7
(3) Housing Investment Percentage			
of GNP	1.6	2.8	4.2
of GDCF	10.2	11.2	14.5

Source: Tables 9, 10, 11.

(10) Rent is usually paid in a lump-sum for the term of the lease, and these are relatively long term. The landlord invests the payment, and returns it to the leasee at the end of the lease. This arrangement makes it difficult for low income renters.

pants due to redevelopment projects, squatter removal, and disaster such as flooding. However, the number of units per annum has been around only 4,000 to 5,000 and has declined from almost 15 per cent of output in 1970 to 4.1 per cent in 1976.

Most of the dwelling units built during the three Plans are in large cities. The number in urban areas increased by 31.2 per cent from 1970 through 1975, but the number of houses in rural areas declined during this period. As was pointed out previously, the Housing Shortage Ratio was high in large cities so that the allocation clearly was an attempt to cope with rapid urbanization. The use of housing allocation as a device to control urban population is unlikely to achieve desired results. Housing units built in urban areas, i.e., cities, have been mostly apartment complexes. Those appear to have been designed to integrate neighborhood characteristics as well as related social and commercial services. The Korea National Housing Corporation has built "New Towns" in Seoul that are located in accordance with urban development plans for the expansion of Seoul.⁽¹¹⁾

The Squatter Problem

Squatters are occupants of "illegal" housing, that is, located on land not owned by the occupant or owner of the house. As in other urbanizing, developing economies, the Republic of Korea has a substantial "squatter" population. Typically, these are the new immigrants who have not been assimilated in the social system in terms of property rights. There were an estimate 250,000 such housing units in 1972; one half were in Seoul.⁽¹²⁾ Programs were implemented to reduce "squatter" housing, the most drastic being clearance. In 1973, over 21,000 units were removed. This strategy has been considerably changed, and a more rational approach is being used. Rehabilitation of substandard housing and resettlement are the basis for improvement of squatter housing. The largest program is that of Seoul, where the problem is the most severe and difficult of solution. Since 1970 measures have been taken to prevent creating squatter areas. Air photographs are used for surveillance. To replace removed structures and

(11) For example, Jamsil New Town is a 3 year project (1975-1977) for a "Model Welfare-Apartment Complex" to accommodate 19,500 households in units ranging from 7.5 pyong (about 262 square feet) to 25 pyong (about 875 square feet).

(12) Ministry of Construction, *Data for the Housing Sector Plan*, 1974.

prevent new squatter housing, the City as a unit of local government, built over 18,000 apartment units in squatter areas for resettlement. The City built the exterior of these units, and the interior was finished by occupants. During this period a large scale residential community was built as a resettlement area, and has been very successful as a development project. In 1973, the "Provisionary Law for the Promotion of Housing Improvement" resulted in a squatter redevelopment project to be completed by 1981, the end of the fourth Plan. Under this project areas with substandard housing will be redeveloped into standard housing districts. For areas that were suitable for residential use and occupied by squatters, usually land owned by the government, infrastructure was put in along streets, and the city provided public facilities to residents at 50 per cent of the cost, and authorized rehabilitation by occupants. Favorable terms are made for former squatters to rebuild or replace their housing and acquire title to the property. Tax exemption and other subsidies are provided. A U.S.A.I.D. Guaranty Loan of \$10 million is being used to help finance the program. Public housing is available to those who cannot afford to buy housing. Seoul's squatter program is an example of the microtarget that needs investigation for in depth achievement evaluation.

Conclusions

Achievement data and information are too aggregated and tenuous for a comprehensive analysis. However, several tentative conclusions appear supported:

First, centralized decision making by the Five-Year Economic Development Plans has enabled the functioning of an allocation system to achieve explicit housing targets. Although the social welfare goals of housing are not likely to be met for some time, production and investment has been reasonably close to plan targets.

Second, the institutions necessary for an effective housing policy have been created and developed in a relatively short time. The Korea National Housing Corporation has achieved a high level of technical proficiency for mass producing housing units as well as the managerial capability to operate a substantial housing program. The Korea Housing Bank has been able to enlarge its financial base under difficult circumstances. Loan programs for home ownership have been developed and the necessary experience acquired

to expand housing finance to meet ownership targets.

The Private Sector is developing a viable housing construction industry in response to sustained demand for housing by an expanding economy and government support. However, the adoption of viable housing finance programs by the banking system has lagged in adequate development, apparently because the Korea Housing Bank is to be the specialized institution for the housing sector. The role of the Private Sector in the fourth Plan will be considered in the next section.

Third, the mix of the Private and Public Sectors that has resulted from housing policy has created a viable housing delivery system. One can only speculate whether this achievement would have occurred “naturally” without the promulgation and implementation of explicit policy and programs by government. Experts in economic development have often commented on the lag of indigenous investment in “social overhead” capital in developing economies, and housing specialists have emphasized the relative importance of urban housing for national development. Market forces require organization to articulate the economic system, including the adjustments to the market system referred to in the Introduction.

How will the housing sector perform during the next Five-Year Plan? The past rarely repeats in a predictable form, for conditions change. Korea’s economy developed rapidly during the remarkable growth of the world-wide economy during the last two decades. Development is likely to be more difficult in the near future, and targets and goals will have to be adjusted accordingly. The last section discusses the housing targets of the fourth Plan.

IV. The Future: Housing in the Fourth Five-Year Economic Development Plan

The Fourth Five-Year Economic Development Plan “aims to build an economic structure for self-sustaining growth, to increase equity in income distribution through social development and to improve technology and efficiency of the economy. Fundamental to the achievement of these goals is the preservation of national security and the pursuit of an improved

standard of living.”⁽¹³⁾

Investment financing, including housing, is to be supplied largely by domestic, national savings. To increase this source, the following programs are to be implemented:

- 1) a continued increase in national income;
- 2) stabilize prices, i.e., control inflation;
- 3) maintain a “modest” level of consumption;
- 4) tax reform to encourage savings;
- 5) improvements in the finance system, i.e., institutional arrangements.⁽¹⁴⁾

Moreover, more emphasis is expected to be on the Private Sector by “normalization” of the market mechanism. This is of great significance for the housing sector. Substantial resources will continue to be directed toward industrialization of the economy, especially technological intensive industries such as machinery, automobiles, and chemicals for export. International competition for world markets will intensify, so that economic support or subsidies by government is likely to increase to reach export targets. In addition, internal development in electrical output and other energy sources as well as expanded social services including education and health are requiring a larger share of scarce resources and careful allocation by central government to achieve national welfare objectives. Consequently, the competition for capital will be even greater than during the preceding Plans. This competition is manifested by political decisions by the government and by economic decisions by the market. The effective mix of public and private enterprise is critical in order to reach national objectives including housing.

Table 13 shows the projected increase of G.N.P. in constant 1975 prices. The annual average increase of about 9.2 per cent is less than that during the third Plan and will require control of inflation. G.N.P. per capita is expected to increase from 257,000 won (\$574) in 1976 to 732,000 won (\$1,500) by 1981, in current prices.

Gross Domestic Capital Formation is expected to decrease from the unusually high of 27.7 per cent of G.N.P. in 1975 to an annual average of 26.2

(13) *The Fourth Five-Year Economic Development Plan, 1977-1981*, Government of the Republic of Korea, 1976, p.10.

(14) *Ibid.*

Table 13. The Fourth Five-Year Economic Development Plan and Housing Target (1), Republic of Korea

	1977	1978	1979	1980	1981	1977~81	
Housing Investment, % of GNP	3.70	3.80	3.80	3.90	3.93	3.85	
GNP, Constant (1975 prices)	11,487	12,520	13,647	14,876	16,214		
Gross Domestic Capital Formation, % of GNP	27.0	26.3	25.9	25.9	26.0	26.2	
Domestic Savings Rate, % of GNP	22.0	23.0	24.0	25.1	26.1	24.2	
Housing Investment, % of GDCF	14.0	14.4	14.5	15.1	15.0	14.7	
Annual Rate of Population Increase	1.6	1.59	1.58	1.58	1.60	1.60	
GNP Growth Rate %	10.0	9.0	9.0	9.0	9.0	9.2	
Housing Shortage Rates	23.9	23.1	22.3	22.2	20.3	22.3	
Housing Construction (··· units)							Revised 1974 Ten Year Housing Goal
Public Sector, Planned	95	94	100	108	115	512	450
% Total	44	40	38	37	36	39.0	27
Private Sector, Planned	125	146	160	182	205	818	1,217
% Total	56	60	62	63	64	61	73
Total	220	240	260	290	320	1,330	1,667
Housing Investment (billion won 1975 prices)							
Public Sector, Planned	107.4	108.7	116.9	128.9	137.9	599.6(2)	675.0
% Total	25	23	23	22	21	23	20
Private Sector, Planned	325.6	366.0	398.9	450.7	499.5	2,040.9(2)	2,703.0
% Total	75	77	77	78	79	77	80
Total	433.0	474.7	515.8	579.6	637.4	2,640.5	3,378.0

(1) As of Dec. 1976.

 (2) Revised Feb. 1977: Public-204.9(7.7%)
 Private-2,435.6(92.3%)

 Source: *The Fourth Five-Year Economic Development Plan*, EPB, Dec. 1976.

per cent, or a total of 18,008 billion won to achieve an average annual growth rate of G.N.P. of 9.2 per cent. In turn Domestic Savings are planned to increase from 21 per cent of G.N.P. in 1976 to 26.1 per cent by 1981, with an average annual rate of 24.2 per cent. This target will enable about 92 per cent of national investment be financed by internal savings, and 100 per cent in 1981.

Household savings are projected to be 6 per cent of G.N.P. during the plan, up from 4 per cent during the third Plan, and 1.2 per cent for the second Plan. Personal consumption expenditures are to be reduced to about 74 per cent of G.N.P. by 1981, from 79 per cent in 1976. This will require

an annual growth rate of 7 per cent, and 7.8 per cent of household disposable income accordingly. The marginal propensity to consume is expected to decline to about 33 per cent in 1981 from 37.5 per cent in 1975.

The success of three five year Plans is likely to be carried over to the fourth Plan. Centralized decision making and a resolute people will quite likely meet domestic savings targets, if national and personal income are maintained. The control of levels of consumption will be a new challenge, and may result in a conflict with the goal of an increased standard living.

Housing Targets

The housing output and investment targets of the 1977 through 1981 Economic Development Plan are shown in Table 13,⁽¹⁵⁾ and are grouped similarly to Table 11 that includes the previous Plans. The overall housing output target is to reduce the National Housing Shortage Ratio from an estimated 23.9 per cent at the end of 1977, the first year, to 20.3 per cent by 1981, with the largest decrease occurring from 1980 to 1981. The Households component of the ratio is based on a population increase of an average annual rate of about 1.6 per cent, resulting in an increase of over 1 million households. To reduce the Housing Shortage Ratio, 1,330,000 dwelling units are planned, 39 per cent by the Public Sector, and 61 per cent by the Private Sector. This is an increase of 568 thousand, or 73 per cent over the third Plan. The target for the Public Sector, i.e., the Korea National Housing Corporation and Local Government is more than double that of the third Plan, from 277,500 units, to 512,000 units. The Korea National Housing Corporation is scheduled to build 135,000 units during the period, or about 27,000 units per annum, far above previous output. The Corporation is expected to produce about 10 per cent of the target total, and 35 per cent of the Public Sector's share. Indicative of emerging urban development policy was a recent announcement that 48 per cent of the 28,000 units planned for 1977 would be in the big cities, and 52 per cent in provincial areas; in 1975, 77 per cent were built in big cities, and 67 per cent in 1976.

Housing investment has been targeted at 2,640.5 billion won (\$5.3 billion), an increase of 1,341 billion won planned for the third Plan, and

(15) The data in Table 13 are the latest available as of the writing of this article. Although the plan became official as of 1977, adjustments are being made to annual targets as priorities are reexamined and conditions change.

1,311.8 billion won, or 98.7 per cent over achieved investment—a doubling of housing investment. The annual investment requirements are shown in the last row of Table 13. The average annual increase is about 41 billion won, which is equivalent to a compound growth rate of 8.05 per cent per annum. If the beginning time period is 1976, then the compound rate is over 11 per cent per annum; an indication of the importance of an underinvestment deviation from planned annual requirements to reach a future target. The G.N.P. compound growth rate is about 7 per cent per annum. As a consequence of the spread between growth rates, the housing investment—G.N.P. ratio increases from 3.70 per cent in 1977 to 3.93 per cent in 1981. The ratio is less than during three years of the third Plan, but exceeds that of 1976. These data indicate that resources committed to housing are adequate to achieve national goals, provided real G.N.P. increases at the forecated rate. This is borne out in the ratio of housing investment to Gross Domestic Capital Formation, or national investment. The average annual rate for the third Plan was 14.5 per cent; it is 14.7 per cent for the fourth Plan. Note that the rate increases from 1977 through 1980 and 1981, although it does not reach the unusual high of 16 per cent in 1975 and 1976. The Public Sector had been allocated about 23 per cent or 599.6 billion won and the Private Sector 77 per cent or 2,049.9 billion won. However, the policy to rely more on the “market mechanism” resulted in a reduction recently announced of the Public Sector to only 204.9 billion won or 7.7 per cent, and increased the Private Sector to 92.7 per cent. The allocation of output is unchanged. The Korea Housing Bank is expected to finance 200,000 units during the Plan. Financing of the Private Sector will require substantial institutional changes.

Housing Investment Policy

The housing problem is usually defined as capital shortage. Because of the increasing demand for capital as well as credit, as the Korean economy expands and income increase, ways and means are being considered to shift more of housing finance from government to the Private Sector or capital market as a source of funds. It has been pointed out that the Republic of Korea has reached a stage of economic development that enables the market system to assume a greater role in the allocation of resources, and espe-

cially capital.⁽¹⁶⁾ An underlying assumption is that the national economy will change by stages from a centralized and controlled decision making institution to the presumed decentralized process of mature, enterprise economies such as the U.S. or West Germany, for example. The adjustments to the price system referred to in the Introduction are, accordingly, temporary and are an expedient until the economy has developed the necessary institutions to reduce, and eventually eliminate, control and direction of central government. This assumption is tenuous indeed in the contemporary world situation.

Mature economies such as the U.S. and even more so for Great Britain and other countries, have been centralizing decision making to achieve national goals and objectives, particularly those that are explicit in terms of social welfare such as employment, education, health and housing. Subsidies are necessary to achieve such welfare goals, especially housing targets. Even in wealthy, mature economies such as the U.S., the dependence on subsidies for housing objectives, especially home ownership has been well established not only for low income groups, but increasingly for middle to upper income households as well.⁽¹⁷⁾ A major objective of housing policy and programs is home ownership by occupant. This is a cultural characteristic that is ubiquitous: the home-is-my castle syndrome, a refuge, and a status symbol per excellence.

Two conditions have been listed as necessary to induce the private capital market to increase its share of housing investment.⁽¹⁸⁾ The first is to integrate housing finance into the financial institutional system, and the second follows, a security instrument, e.g., a mortgage, with a competing interest rate commensurate with a long term or repayment period.

An effective capital market and credit system would allocate scarce funds, i.e., savings, efficiently without costly regulations and controls. Capital markets consist of submarkets, and effective integration of home securities requires an elaborate system of supporting institutions and subsidies. The Republic of Korea is in the process of developing such a market, and the

(16) Song, B. N. and Struyk, R. J., *Korean Housing Economic Appraisal and Policy Alternatives*, Korea Development Institute.

(17) For example, H. J. Aaron, *Shelter and Subsidies, Who Benefits from Federal Housing Policies?*, Brookings Institution, 1972, Wash., D. C.

(18) Song, B. N. and Struyk, R. J., *op. cit.*

basic institutions are in operation. However, it may take a long time to acquire the technical technique to make the market effective, and more importantly, a scale for the requisite economies of operation. Korea is a relatively small country hence economy, and the size of the market is accordingly limited.

The second condition of competitive interest rates requires considerable analysis. Suggestions have been made to increase savings rates to competitive levels, even with those of the curb market, i.e., about 3.5 to 4.5 per cent per month. One wonders if price competition by institutions and non-institutions would only raise rates even higher, but not necessarily increase savings or change the allocation of capital. How high should rates go to reach "equilibrium"? In 1965, interest rates on commercial bank loans were raised from 16 to 26 per cent, and 18 month time deposits were raised to 2.5 per cent, or a 30 annual rate at simple interest. The deposit rate was lowered to about 20 per cent by 1971 by the Ministry of Finance which has the requisite authority. It is likely the banks were glad for such relief. At that time the curb market rate was around 3.5 per cent per month. Inflation was estimated to be about 10 to 14 per cent annually. Over the next 3 years, savings deposits increased at a compound rate of 100 per cent, then slowed a bit, and by 1971 were 16 times the 1965 level.⁽¹⁹⁾ Currently, savings rates at the Korea Housing Bank range from a low of 4.8 per cent to 18 per cent, to 33 per cent for special programs described previously. Time deposits averaged 30 per cent in 1965, and in 1976 were 18 per cent. Undoubtedly raising rates might shift funds from "idle" funds of the curb market to institutional savings, but all rates might rise in step, with little change in composition. Just as important is the question of whether housing securities should compete with speculative, high risk loans? These are short term, perhaps a year or less, so that the absolute interest amount is not likely to exceed the principal, unless the rate is over 100 per cent. However, a 30 year loan at 14 per cent interest, per annum, with amortized monthly payments will generate interest several times the original principal. For example, a loan of 750,285 won with such terms would require a total payment of 4,080,000 won, over 5 times the principal. The income transfer

(19) Gilbert T. Brown, "Korea's Interest Rate Reform and Domestic Savings," *Development Digest*, Vol. XIII, No. 4, Oct. 1975.

from borrower to lender is very significant. With amortized payments, the lender can reinvest at market rates as the loan is repaid.

To further induce savings, a variable interest rate on mortgage loans, "indexed" to the rate of inflation as reflected in market interest rates, has been suggested, with payments adjusted accordingly to the income of the borrower by lengthening the term of the loan. This may be an effective means of transferring the risk of loss from rising opportunity costs to the borrower, and might lower the cost of capital. Combined with a government guaranty against loss of principal, i.e., mortgage insurance paid by the borrower, one can hardly imagine what other inducements are necessary to induce investment funds from the Private Sector to achieve housing targets.

Policy to induce the private capital market to invest in housing capital formation seems to be entirely on the supply side. The cost of such inducement must be paid by the market, i.e., the housing market. Rising incomes, both aggregate or national income and income per capita, are necessary conditions for response from the market to rising costs. Surveys taken in Seoul have indicated that housing expenditures as a per cent of income range from 10 to 14 per cent for upper income groups to about 25 per cent for lower income groups. If these data are reliable it is likely the higher cost of capital for housing can be met from current income by part of the market. However, the price and income elasticity of housing services is difficult to measure. One study estimates that mortgage credit would result in a potential demand of about 150,000 households, assuming a downpayment of 70 per cent, 16 per cent interest, a 20 year term and a very modest house, if these households had the required downpayment.⁽²⁰⁾ If these results are anywhere near potential demand for mortgage funds under the assumed conditions, about 11 per cent of the output of the fourth Plan would be reached. In the U.S. an attempt to develop an effective market for home mortgages has been under-way for over 30 years. The process is cumbersome and costly, with an elaborate system of government support, e.g., the Federal National Mortgage Association, the Government National Mortgage Association, and other institutions. These are to support a "secondary" market for home mortgages, i.e., the capital market for buying and selling these securities, enabling financial institutions to adjust portfolios

(20) Song, B. N. and Stryuk, R. J., *op. cit.*

according to market conditions. A more viable approach to organizing the supply of funds is the one developed during the third Plan, the institutionalization of household and business savings by the Korea Housing Bank. With adequate support this institution could meet the housing investment requirements of the fourth Plan.

Housing Programs and Urban Development

The structure of Korea's system of cities is implicit in economic planning, and will have to be incorporated in the programs of the Five Year Economic Development Plans. Urban development planning has been seriously undertaken, especially in Seoul. Housing is only one element of the urban system, but most likely the most important. The process of establishing targets which was included in the first section implicitly includes housing in the overall Development Plan at the community level. However, decisions by the central government, e.g., the Ministry of Construction, can drastically change the entire housing plan. For example, on January 18, 1977, the Ministry announced a new industrial city would be built about 21 miles southwest of Seoul. Construction is planned to begin in March 1977. The plan projects a population of 200,000. The city will be surrounded by a green belt. A new Capital City was announced on February 11, 1977 by President Park Chung-Hee, to be built south of Seoul. This city will supplement the central government functions now located in Seoul. The objective of these new cities is to redistribute the urban population, especially that of Seoul. In addition, programs of regional development are under way that will have a very significant impact on urbanization and urban development.

The capital formation requirements for regional and urban development plans and projects will be difficult to achieve without an explicit ordering of national priorities and astute management of the mix of government and business resources and institutions. Housing targets must be assimilated into national urban development policy and programs in order to achieve national welfare objectives.