

/INCOME DISTRIBUTION AND ECONOMIC GROWTH/ :

The Case of Korea

by

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B.A., DONGGUK UNIVERSITY, 1977

A MASTER'S REPORT

**Submitted in partial fulfillment of the
requirements for the degree**

MASTER OF ARTS

Department of Economics

**KANSAS STATE UNIVERSITY
Manhattan, Kansas**

1986

Approved by



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ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my major professor, Dr. E.W. Nafziger, for his comments and advice to this report.

I would like to extend my sincere appreciation to DRs. Gormely and Rhodes, who not only taught me, but also served on my committee.

I am also indebted to Dr. Chang-won JUn, Dean of the Graduate School of Business Administration at Dongguk University for his encouragement and advice concerning my studies and this report.

I also extend my sincere gratitude to Messrs. Song, Y Chul, Kim, S. Joong, and Kim, O. Seok for their help in sending materials related to this report.

My sincere appreciation to my parents, my wife, Yeonmie, and my son, Cheonho, for their understanding and help in my studies.

1. Introduction

Korea has achieved rapid economic growth since 1963.¹ The annual average growth rate of gross national product (GNP) between 1962 and 1981 was 8.6 percent at constant (1975) prices and that of exports during the two decades was 36.7 percent based on customs clearance. The annual growth rate of the population was 2 percent between 1962 and 1981.²

This country has emphasized substantially rapid and sustained growth through industrialization and export expansion, rather than the improvement of income distribution. Dr.Lee asserts that it is evident that Korea has continued to pursue rapid economic growth without adequate policies of income distribution and that the problem of distribution should be at the center of the stage in the Korean economy.³

P.W.Kuznets indicates that the hallmark of rapid growth has been unevenness and disequilibrium.⁴ We can expect that Korean economic structures have substantially changed since 1963 and that some economic sectors lead and others lag.

Based on a study of long-term changes on shares and inequalities in the distribution, Simon Kuznets indicates

that the relative distribution of income first becomes more unequal in the course of economic development and only at later stages becomes more equal.⁵ This hypothesis is now popularly known as an inverted U-shaped pattern of income inequality.⁶ At the start of the 1960s, Korea had a more relatively favorable distribution of human and physical capital than most less developed countries (LDCs). This resulted from land reform, a universal, free primary school system since 1945, and the radical changes of physical capital through the confiscation of illegally accumulated wealth and the stocks of the the large private shareholders in commercial banks, and the settlement of rural usurious loans. Has income distribution in Korea improved or deteriorated under the economic growth since the 1950s ? Have Korea's data on income distribution supported the hypothesis that inequality follows an inverted U-shaped curve as Korea's GNP per capita income increased from \$67 in 1953 and \$ 87 in 1962 to \$1,735 in 1981 ?

Unfortunately, Korea has approximately estimated short-term data of the size distribution of income; there are not reliable short and long-term data in Korea. This paper reviews some shortcomings of earlier studies on income distribution in Korea and suggests that Korea modify the prevailing surveys, which have some

shortcomings to be indicated in Chapter IV. The government can get better data to further examine the movement of changes of income distribution in Korea and to design more adequate policies to improve income distribution than she would in a situation of no better data. This paper examines the changes of income distribution, based on the official data even though these data are approximate and have shortcomings to be mentioned in Chapter IV. This is because we can suggest the trend of income distribution comparatively over time. Based on the official data of Korea and Taiwan, both successful countries in economic growth and income distribution among LDCs, we compare the trend of income distribution in the two countries over time. It is very useful to do so because the two countries have similarities as shown in Chapter IV.

We review policies and measures which affected income distribution in Korea, i.e. tax, public expenditure, monetary, exchange rate, agricultural price, and educational policies, especially in the 1970s.

The major question for policy analysts has been whether or not there is a basic conflict between the goal of greater distributional equality and the goal of faster growth. The current evidence is at best mixed. Dr. Lee

asserts that the Korean government should take paths of both economic growth and income distribution for sustained economic growth, social and political stability.

If redistribution takes place through increasing the productivity of the lower-income group of the economy together with sound policies- for example, by labor supply through training, education, and health program, or by absorbing the unemployed or underemployed so as to add to their productive contribution to the economy together with slow population growth through family planning program and socioeconomic development, we could reduce or avoid the conflict between economic growth and income equality.⁹ This paper suggests that income distribution policy center on growth-related policies together with some policies to reduce population growth. This means to design some policies so that income distribution can be improved and economic growth sustained.

Endnotes for Chapter I

1. There are of course, two Koreas, the Republic of Korea(ROK) and the Democratic People's Republic of Korea(DPRK), or South and North Korea, respectively. The division of the country was done in 1945. Between 1910 and 1948 South and North Korea are referred to as Korea, and since 1948, South Korea is referred to as Korea.
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II. The Korean Economy before Rapid Economic Growth

The first part will focus on the colonial period between 1910 and 1945 to understand the initial conditions of the postwar economic growth of a divided Korea. The second part will deal with the economic growth and measures for the changes of income distribution between 1945 and 1962 to understand the initial conditions of human and physical capital before rapid economic growth.

A. The Korean Economy during the Colonial Period

The official annexation of Korea by Japan in 1910 brought the establishment of the colonial Government-General based on the political system of strict totalitarianism. Under the colonial Government-General, Korea was developed by the Japanese in order to meet Japan's economic needs. The needs first centered on agricultural development in order to provide Korean rice to Japan's consumers between 1910 and 1930; then they lay in light and capital-intensive industries, i.e. textile, machinery, and chemical industries, to take advantage of cheap raw material and labor costs in Korea between 1920 and 1940. Tariffs on trade between the two countries were eliminated and the same currency used.

1. Overall Growth

The data available in the official sources cover only the goods sectors i.e., agriculture, forestry, fishery, mining, and manufacturing except services. The annual growth rate of the goods sectors was 3 percent, the agricultural sector at 2 percent a year and the manufacturing sector at 9.7 percent a year from 1910/15² to 1934/39. During the colonial period in Korea, the total population increased at 1.6 percent a year between 1910 and 1944. The low increase resulted from the high migration to China and Japan, where Korean migrants increased from 0.6 million persons in 1920 to 2.6 million persons in 1940. The natural increase of the population was 24 and 23³ per 1,000 persons, respectively, in 1920/25 and 1935/40. The trade ratio (exports plus imports of goods to the goods sectors) increased from 20.7 percent a year in 1920 to 52.0 percent in 1939 : the export ratio from 11.4 percent to 18.4 percent and the import ratio⁴ from 9.3 percent to 33.6 percent. This reflects increasing interdependence and importance of international trade between the two countries.

The colonial power adapted modern facilities and new institutions to develop agriculture and modern industries. Some concomitants of economic growth during the postwar period were inherited from the colonial

period; among these were, transportation and communication facilities, i.e. the construction of highways, the establishment of harbors, a modern banking system, and educational and administrative facilities.

2. Structural Change

The share of the agricultural sector decreased from 85 percent in 1910/12 to 50 percent in 1939/41, and the share of the manufacturing sector increased from 7 percent to 29 percent. Table 1 shows the high proportion of the overall growth that was attributable to the expansion of the agricultural sector until the end of the 1930s; however, the rapid industrialization of the 1930s shifted the leading role from agriculture to manufacturing.

Table 1. Contribution Rates by Industrial Origin
of the Goods Sectors (percentages)

Period	Agriculture	Manufacture	Total
1910/15-1916/21	85.6	14.4	100
1922/27-1928/33	73.3	26.7	100
1928/33-1934/39	20.9	79.1	100

Source : Suh, Sang-chul, Growth and Structural Changes In the Korean Economy Since 1910. Cambridge, Massachusetts: Council on East Asian Studies Harvard University, 1978.

3. Regional Specialization of Korea of the The South Vs the North

The economic growth of Korea during the colonial period was accompanied by broad regional specialization. In the agricultural sector, the south (now South Korea) was highly specialized in the production of rice and barley, the north (now North Korea) of wheat, corn, and potatoes. In the manufacturing sector, the south dominated textile and light industries: the north led in the production of machinery and chemical industries. Here we can conjecture that Korea had a good experience and learning in textile and light industries under the colonial period.

4. Dual Economy under the Colonial Period

Here we discuss dual economy as the characteristics of colonial development, and further look at increasing income inequality through dual structure in agriculture and industry, even though there are no data available regarding the size of income distribution. Irma Adelman and Cynthia Taft Morris indicate that " when economic growth begins in a subsistence agrarian economy through the expansion of a narrow modern sector, income inequality typically increases."⁵

At the start of the colonial period (1910/12), the share of agricultural sector was 85 percent, and that

of agricultural employment was 84 percent. In 1910, Korea⁶ was primarily an agricultural country. Since 1910, the key role was played by a minority economic elite consisting mostly of Japanese residents in Korea. In manufacturing, modern industries were owned and managed by Japanese residents in Korea; only traditional industries and small factories were owned by Koreans. Thus, modern sectors were supported by the Mitsubishi concern and established in the 1930s, but they failed to create employment opportunities because of the lack of an adequate labor force for modern industries. In agriculture, Japanese had large-scale farms, and large landlords including Korean and Japanese accounted for over 60 percent of total rice exports. The land-tenure system provided exportable rice to landlords. The ratio of paddy field by pure tenants to total paddy field was 67 percent and the maximum amount of rent ran up as high as four-fifths and the minimum amount went down as low as one-third.⁷ The higher rent imposed the heaviest burden on tenant farms; it was estimated that over 62 percent of total tenant-farm households were short of even the minimum amount of food required for an adequate diet, and the average amount of farm household debt amounted to the equivalent of 30 percent of annual income in 1930.⁸

Since there are data available in the agriculture and manufacturing sectors, we deal with these two sectors. The ratio of real product per worker in agriculture to that in manufacturing declined from 0.91 in 1920 to 0.24 in 1940; the index of product per worker in agriculture increased from 100 in 1918/22 to 124 in 1938/42, and in manufacturing from 100 to 466.⁹ This clearly indicates that the gap between the two sectors widened remarkably. The reason was that the advanced industrialization in the 1930s was in large-scale and capital intensive industries, which required modern technologies of a capital-intensive nature and skilled workers from Japan. The industrialization was largely concentrated on the production of non-consumers and intermediate goods for final processing in Japan. In the 1930s, the increasing export ratio reflects this. Therefore, the industrialization had few link effects in Korea.¹⁰

Some fragmentary data show that the minority economic elite played an important role. 1) Deposits at commercial banks show that over 70 percent of the total savings in Korea were owned by Japanese residents in Korea, who numbered only 2.6 percent of the total population in Korea.¹¹ 2) The dual nationality in the Korean economy can be seen in the differential formal

education of the labor force. In 1910, Japan introduced the new educational system (Table 2) to the public for the first time in Korean history; however, Korean students had an access to primary schools, rather than secondary and higher schools (see Table 2).

In summary, the minority economic elite consisting mostly of Japanese residents in Korea and some Korean landlords must have gained high profits in agriculture and industrial sectors through large-scale farms and the land-tenure system in agriculture, and the advanced sector and the pre-industrial sector in manufacturing under the financial support and policy of the colonial Government General. In the light of these facts, we can conjecture that the colonial development and the industrialization in Korea may have resulted in greater income inequality.

Table 2. Number of Students by Type

	In Korea, 1939		In Japan,
	Korean Students/1,000.	Japanese Students/1,000.	
Primary: School	55	143	165
Secondary and Higher School	3	53	26
Total :	58	196	191

Source : Gradjanzev, Andrew J. Modern Korea. New York :
Institute of Pacific Relations, 1944: 238.

B. The Economy between 1945 and 1962

1. The Korean economy during the disorder of of the Korean War

The division of the country at the 38th parallel in 1945 caused economic, social, and political disruption; further, the Korean War made the situation worse between 1951 and 1953. The separation of the South from the complementary production of coal, fertilizer, and heavy industry in the north was a big blow. The lack of experience in operating factories was another problem after Japanese managers, high-skilled workers, and professionals left Korea in 1945. Inflation was a major disrupting force, and in the four and one half years between Oct. 1945 and Feb. 1950, there was a 34-fold increase in the wholesale price index because of excessive money supply due to the large government deficits. Furthermore, rapid wartime inflation caused more than a 20-fold increase in prices between 1950 and 1952.¹² The freedom of political expression after liberation led to the formulation of numerous political parties, with those officially registered rising to more than 300 in 1948.¹³ In the Korean War, casualties have been estimated at almost a million in South Korea, and actual physical loss in the south was estimated at over

prices, a sum only slightly less than the current value¹⁴ of the 1953 GNP. We can imagine that the loss of higher income groups was greater in the properties, rather than that of lower income groups during the Korean War.

2. Korean Economy after the Korean War

Between 1953/55 and 1960/62 the annual growth rate of GNP was 4.2 percent and GNP per capita at 1.5 percent a year. The population increased from 21.5 million to 26.3 million at 2.7 percent a year. Table 3 shows that the share of industry increased from 13.6 percent to 18.2 percent, and that of agriculture decreased from 45.2 percent to 39.9 percent. The reason was that the government supported import-substitution industries of consumer goods through importing capital goods. Korea suffered a lack of fertilizer supply in agriculture because of the dependence on its imports.

Table 3. Share of GNP by Sector, 1953-62

(Share in percent based on current price data)

	1953-1955	1960-1962
Agriculture and fisheries:	45.2	39.9
Industry :	13.6	18.2
Service :	40.0	41.0
Rest of World :	1.1	0.8
Total	100.0	100.0

Source : BOK. National Income in Korea. 1975 : 144-155.

: BOK. Economic Statistics Year Book. 1977: 261.

During the first years of the post-war period, the Korean government necessarily gave priority the construction of the Infrastructure and factories that had been destroyed in the Korean War. The more urgent programs of repairing war damage were completed by 1957. Therefore, the government shifted its emphasis to stabilizing prices. The cause of inflation was the excessive money supply due to government deficits. The money supply (M1) increased from 2.23 billion won in 1953 to 37.62 billion won in 1962 (a 37 percent of annual average growth rate). The annual average growth rate of prices was 20.6 percent during the years.

3. Causes of Economic Growth between 1953 and 1962

The question of interest here is: how did the Korean economy achieve an annual growth rate of 4.2 percent after the division of the country, the Korean War, and reconstruction between 1953 and 1962? We can answer the question by examining Korean economic indicators, while considering that Korea received 15 billion dollars of foreign assistance, an amount among the largest in the world between 1946 and 1976. Exports of goods and services contributed little to growth between 1953 and 1962: exports increased as a percentage of GNP slightly from 1.45 percent to 3 percent. Domestic savings as a percentage of GNP was 5.7 percent a year

between 1953 and 1962, and investment was 11.5 percent of GNP in 1953/55 and 9.5 percent in 1960/62. In the meantime, the imports of goods and services increased from 11.96 percent of GNP in 1953 to 19.84 percent in 1962. Table 4 clearly shows that foreign assistance played a major role in the Korean economy during the period, and financed nearly 70 percent of total imports from 1953 through 1962. Foreign assistance was equal to nearly 80 percent of total fixed capital formation and to 8 percent of GNP. In summary, between 1953 and 1962, Korea's economic growth may be attributable mainly to foreign assistance.

Table 4. Ratio of Aid and Net Foreign Savings to GNP,
Total Imports and Fixed Capital Formation (%)

Ratio to GNP of		1953-62	1963-64	1965-74
Total Imports	:	11.7	15.1	26.7
Fixed Capital Formation	:	10.5	12.7	22.7
Foreign Savings	:	9.1	9.6	9.5
Aid Imports	:	8.1	6.5	4.4
Ratio to Total Imports of				
Foreign Savings	:	78	64	36
Aid Imports	:	69	61	17
Ratio to Fixed Capital Formation				
Foreign Savings	:	88	75	42
Aid Imports	:	77	51	20

Source : BOK, Economic Statistics Yearbook :
Seoul: various years.
: Kuznets, paul W., David C.Cole, and
Youngil Lim. op. cit., p. 14.

4. Initial Conditions of Human and Physical Capital before Rapid Economic Growth

In this section, we discuss the introduction of a universal, free primary school system, land reform, and measures after revolutions by students in 1960 and the military in 1961.

In 1910, Japan introduced the new educational system open to the public for the first time in Korean history; the new education system was not widespread (see Table 2). However, it seems evident that the introduction of the new education system may be successful in primary school and helpful for the postwar economic growth. In 1945, the U.S. military government introduced its education and a universal, free primary school system. The introduction was a good measure for redistributing human capital to the relative benefit of the poor as Korea's economic growth proceeded in the 1960s through unskilled, labor-intensive industries. As a result, the primary enrollment rate as a percentage of age

group were 94 percent in 1960, and 107 percent in 1980. The adult literacy rate was 22 percent in 1945, 71 percent in 1960, and 93 percent in 1980. It seems evident that the introduction of a universal, free primary education made income distribution less unequal in Korea than in most LDCs; Korea could absorb the literate labor of primary education more than many LDCs as she carried out exports of labor-intensive and unskilled goods in the 1960s and the early 1970s. The 1980 World Bank Report indicates that the rates of return to primary education in the middle income LDCs with adult literacy rates above 50 percent were 22.2 percent between 1957 and 1978, while secondary and higher education at 14.3 and 12.4 percent, respectively.¹⁷ Korea has no data on the rates of returns to primary education.

The land-tenure system was established during the colonial period in Korea. By the late 1930s, nearly 60 percent of all cultivated land was owned by noncultivating landlords. After World War II, the U.S. military government redistributed over 240,000 hectares of former Japanese land. Then under the Land Reform Act in the period of 1948 and 1952 the Korean government distributed nearly 330,000 hectares of farmland. The Korean government fixed compensation at 30 percent of the annual harvest each year over 5 years, and the compensation over

500,000 hectares appear to have been sold directly by landlords to their tenants. In the meantime, the government gave its bonds to landlords, but did not redeem the bonds on time. The landlords were not allowed to use the bonds as collateral for business loans. The price of these bonds in the market fell precipitiously, and the landlords' loss increased under rapid inflation. Eventually about 70 percent of the total cultivated land in Korea was involved in the land reform, which decreased the tenant-cultivated portion from 49 percent of the total in 1945 to 5 percent in 1964. Ultimately, former tenants were the main beneficiaries. It seems evident that land reform made income distribution less unequal in Korea than most LDCs. After the land reform, agricultural output in the late 1950s grew at 3.6 percent a year between 1953 and 1961, as compared to 2.9 percent in the 1930s; however, Table 5 shows that the production of rice as a main crop in the 1950s was the same as that of the 1930s. The reason may be that under reconstruction after the Korean War, there was a lack of a government's extension service, supply of fertilizer and bank loans. Korea imported all the fertilizer during the 1950s, while fertilizer was supplied from the north in the 1930s.

The radical changes of physical capital after revolution by students in 1960 and by the military in

1961 were made through the confiscation of illegally accumulated wealth, the deprivation of the large private shareholders of their stocks in main commercial banks, and the settlement of rural usurious loans, whose interest rates exceeded 100 percent per annum. The measures were the radical change of redistribution of physical capital to the lower income groups and might have made income distribution less unequal in Korea than most LDCs. Table 6 shows that the confiscation was quite a significant sum. In 1961, the military government took control of the administrative rights of commercial banks by depriving the large shareholders of their stocks in banks. The government settled usurious loans in rural areas. The amount which the equivalent debenture was issued to creditors was 2.6 billion won. The sum was paid back by the debtors in four-year installment payments following a year of grace at the annual interest rate of 20 percent.

In summary, Korea had the land reform, a universal, free primary school system, and the radical changes of physical capital between 1945 and 1962; She had the initial conditions of more relatively favorable distribution of human and physical capital before rapid economic growth than most LDCs.

Table 5. Rice Production by Selected Years
(Volume in thousand suk)

Year	Volume	Index
1912-1915	9,116	100
1921-1925	14,784	118.4
1936-1940	15,722	170.1
1952	9,284	101.8
1953	14,136	155.6
1957	15,738	172.6
1960	15,949	175.

Source : BOK.Annual Economic Review of Korea, Seoul :
1948.

: Data for 1912-1940, computed production
according to the ratio of cultivated land
between south and north areas.

: BOK.Economic Statistics Yearbook, Seoul: 1963.

Table 6. Revenues from Confiscation of Illegally
accumulated wealth (million won) : 1961-1965

Revenue from confiscation (A)		4,216.
Corporate Savings	(B)	60,940.
Dividends	(C)	14,320.
A/B	(%)	7
A/C	(%)	30

Source : BOK.Economic Statistic Yearbooks, Seoul :
various years.

Endnotes for Chapter 11

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III. Rapid Economic Growth in Korea since 1963

As mentioned earlier in Chapter II, the goods sectors of the Korean economy grew at 3 percent a year under Japanese control between 1910/15 and 1934/39. However, the development was designed to serve the needs of Japan. Between 1953 and 1962 the economic growth resulted mainly from foreign assistance. Here we discuss the overall growth, the structural change, exports and imports, and investment and savings of the Korean economy between 1962 and 1981.

A. Overall growth

Since the First Five-Year(1962-66) Economic Development Plan in 1962, Korea has achieved phenomenal economic development. The annual average growth rate of real GNP was 8.6 percent between 1962 and 1981. The yearly average growth rate of the population was 2 percent during the two decades. Exports of goods and services grew at 36.7 percent a year during the twenty¹ years.

B. The Structural Change

The rapid economic growth has quickly and substantially changed Korea's industrial structure. Table 7 indicates that the share of agriculture declined from

46.9 percent in 1963/65 to 19.9 percent in 1978/80, and the share of industry increased from 13.8 percent to 37.3 percent. Table 7 shows the gaps in the annual average growth rates -- agriculture at 3.2 percent, industry at 16.7 percent, and the services sector at 9.8 percent.² This means that rapid economic growth can be attributed largely to manufacturing export growth and the services sector.

Table 7. Changes in Outputs Structure: 1963/65 to 1978/80
(GDP at 1975 factor costs)

	Period		Distribution (% share)		Average Annual Growth(%)
	1963/65 (1)	1978/80 (2)	1963/65	1978/80	(1) to (2)
1. Total	3,406	12,796	100	100	9.2
2. Agriculture	1,597	2,550	46.9	19.9	3.2
3. Industry	470	4,771	13.8	37.3	16.7
a) Mining + Manufg.	371	3,907	10.9	30.5	17.0
b) Construction	99	864	2.9	6.8	15.5
4) Services	1,338	5,474	39.3	42.8	9.8

Source : Computed from EPB Data. 1982.

Table 8 shows that the employment share of the non-agricultural sector increased from 39 percent to 64 percent and the Gross Domestic Product per worker of the

nonagricultural sector was getting larger relative to the GDP per worker of the agricultural sector. In terms of relative productivity (Table 8), the industrial sector increased from 1.15 in 1963/65 to 1.27 in 1978/80 because of the greater availability of skilled manpower and technological advances, while the agricultural sector decreased from 0.77 to 0.55. We may suggest that through Tables 7 and 8 the distribution of income by sector would be shifted toward inequality between 1963/65 and 1978/80.³

Table 8. Employment Shares and Output per worker

(GDP at 1975 factor cost)				
	Employment Share		GDP per worker	
	1963/65	1978/80	1963/65	1978/80
1. Total (Thousand)	7,889	13,620	432	940
Percent	100.0	100.0	.	.
2. Agriculture	61	36	331	520
3. Non-agriculture	39	64	590	1,176
	GDP per worker		a) Relative Productivity	
	1963/65	1978/80	1963/65	1978/8
1. Total	432	940	1.00	1.00
2. Agriculture	331	520	0.77	0.55
3. Industry	498	1,198	1.15	1.27
a) Mining+ Manufg.	505	1,240	1.17	1.32
b) Const- ruction	471	1,038	1.09	1.10
4. Services	632	1,158	1.46	1.23

Source : Computed from EPB Data, 1982

a)

Relative Productivity means sectoral productivity in relation to economic-wide productivity.

C. Exports and Imports

Here we look at the changes in the pattern of exports and imports by commodities between the 1960s and 1970s. Furthermore, we look at the fact that the industrial structure has been changing from labor intensive and light industries to capital intensive, heavy, and chemical industries.

Korea's foreign trade has expanded rapidly so that the economy could be much more closely tied to international markets in the 1970s than 1960s. Ratios of exports plus imports to GNP increased from 21 percent in 1962/64 to 86 percent in 1979/80. In the absence of natural resources, Korea's imports rise as its exports increase. Korea's imports have been much greater than exports, so deficits on trade balance increased from \$0.245 billion in 1964 to \$2.985 billion in 1981.⁴ As shown in Table 9, the composition of Korea's exports is changing from primary and light industrial goods to petrochemical products, metal iron and steel, general machinery, electronics, and transport equipment goods. The

share of light industries, i.e. textiles, footwear, and others, decreased from 52 percent in 1965 to 40 percent in 1983, while the share of chemical, metal, heavy machinery, and capital intensive industries increased⁵ from 13.6 percent to 49.1 percent.

Table 9. The Structure of Exports by Commodities
(Million US dollars, %)

Year	Total	Primary	a	b	Others
			Light	Chemical & Heavy	
1965	175.1 (100)	60.4 (34.5)	91.8 (52)	23.8 (13.6)	.
1971	1,067.4 (100)	146.6 (13.7)	758.6 (71)	143.9 (13.5)	18.3 (1.8)
1981	21,253.8 (100)	1,843.4 (8.7)	9,927.3 (46.7)	8,431.4 (39.3)	563.5 (4.9)
1983	24,445.1 (100)	1,998. (8.2)	9,879 (40.4)	12,005. (49.1)	1,052 (2.3)

Source : Computed from EPB Data, 1984.

a
Light industry product includes textiles, footwear, and others.

b
Heavy and chemical products include petrochemical, metal iron and steel, general machinery, electronics, and transport equipment.

Table 10. The Ratio of Industrial Structure

Period	Light Industries	Heavy and Chemical	Total
1960-61	72.8	27.2	100.0
1964-66	64.7	35.3	100.0
1969-71	58.1	41.9	100.0
1974-76	48.7	51.3	100.0

Source : Computed from EPB Data.

We can see that the change of industrial structure continued through the 1960s and 1970s (Table 10), with a subsequent change in the structure of exports. The composition of Korea's imports is indicative of the absence of natural resources domestically. The amount of grain, crude oil, and raw material increased from \$0.353 billion in 1965 to 16.7 billion as exports and GNP increased. Korea's export expansion generated increasing imports of primary and capital goods. Among imports, capital goods increased substantially from \$60 million in 1965 to \$7.8 billion in 1983.⁶ This figure indicates that the Korean economy is running toward capital intensive industries in the latter 1970s, in contrast to the 1960s and the early 1970s (Table 10). The structure of exports by commodities is also shifting from primary, light, and labor intensive goods to high-skilled labor intensive and capital-intensive goods.

D. Investment and Savings

As mentioned earlier in Chapter II, foreign assistance played a major role in the Korean economy between 1953 and 1962. However, since foreign assistance decreased in the early 1960s, Korea needed foreign exchange earnings in order to import raw material, fertilizer, crude oil, and capital goods. In 1962, the government selected policies of export-led growth instead

of the inward policies of supporting import-substitution industries. The government needed to mobilize domestic savings to support investment and expand some exporting industries (Table 11). With a yearly average growth rate of 16.8 percent in real national savings, the national savings ratio (domestic savings to GNP) increased from 7.5 percent in the period 1962/64 to 24 percent in the period 1978/80. The national savings ratio of Korea is lower than those of Taiwan and Japan. The real volume of gross investment grew at 17 percent per annum, and the investment ratio (gross investment to GNP) increased from 12.8 percent in 1962 to 33.2 percent in 1979 to 1980.⁷

This shortage of savings relative to the needs of investment has resulted in a large scale inflow of foreign capital. The amount of public and private loans and others accounted for \$27 billion in 1980 and \$43 billion in 1984.

Table 11. National Savings Performance

Year	Gross Capital Formation/GNP (A)	National Savings/GNP (B)	Individual sector's propensity to save a
1962	12.8	3.3	4.0
1966	21.6	11.8	5.0
1970	26.8	17.3	5.8
1975	25.5	23.1	9.3
1980	31.5	19.9	8.5

Source : EPB. op. cit., 1982, pp. 50-51

a

The ratio of savings to disposable income.

Endnotes for Chapter III

1. EPB. op. cit., 1982, p. 3.
2. Op. cit., p. 32.
3. Op. cit., p. 18.
4. Op. cit., p. 213.
5. Economic Planning Board. Korean Economic Indicators.
Seoul. : EPB, 1984 : 64-69.
6. Ibid., pp. 74-75.
7. EPB. op. cit., 1982, pp. 50-54.

IV. Income Distribution In Korea

Has the inequality in the distribution of income increased or decreased during Korea's economic growth since the 1950s ? It is not easy to answer the question in detail because there are little reliable data. For specification of the characteristics of the size distribution of income, Simon Kuznets indicates that incomes should be recorded and grouped for family-expenditure units, the distribution should cover all units in a country rather than a segment either at the upper or lower tail, and the units should be grouped by secular levels of income, free of cyclical and other transient disturbances.¹

In practice, many data in LDCs do not satisfy the above mentioned conditions. In Korea, major household surveys, the City Household Survey and the Farm Household Survey, have several serious shortcomings: 1) landless farm laborers and farm households owning less than one danbo (0.245 acre) of crop land are excluded. These households accounted for 4.9 percent of total farm households in 1970; 2) rural, non-farm households are excluded, and amount to 14.5 percent of total households above a certain level are excluded; 4) the sample of population; and 5) the sample of farm households owing more than 0.5 Jungbo (where Jungbo=2.45 acres) is more

than proportional. We conclude that Korea's major household surveys exclude some much lower income - and higher income households and that these surveys thus understate income inequality. Furthermore, some studies used tax data, but in those, income is underreported, as in most LDCs. In this chapter, this paper discusses some shortcomings of earlier studies and suggests the modification and improvement of the prevailing household surveys in Korea. Second, we discuss the trend of income distribution comparatively over time, based on the official data on income distribution in Korea. The official data are derived by Drs. Choo and Kim and have some shortcomings to be mentioned in this chapter. And we compare the trend of income distribution between Korea and Taiwan, which are considered successful countries in economic growth and income distribution among LDCs.

A. Chae's Analysis of Income Tax (1958-1961)

This analysis was based on income earners, rather than households. He converted tax brackets into income brackets on the basis of the tax rates. He also used wage and salary income. Chae's results were that the income inequality deteriorated between 1958 and 1961, based on the usual form of the Pareto distribution and that the Gini coefficients showed the opposite results of the

changes from 0.464 in 1958 to 0.438 in 1961.³

B. The Chung-Ang University Income and
Expenditure Survey (1966)

This survey was designed for the analysis of income distribution and consumption patterns by income brackets, involving a total of 799 households in urban areas and 971 households in rural areas.⁴ The sample size is small, and this survey did not cover urban households receiving a weekly or daily wage. The survey was made between Jan. and Mar. 1966, so this survey neglected seasonal fluctuations. Its result⁵ showed a Gini coefficient of 0.33 and that the income distribution of farm households was more unequal than that of urban households.

C. Harry T. Oshima (1966)

Professor Harry T. Oshima used the results of the Chung-Ang University survey and USDM-EPB Research Project. Single persons and/or rural households without arable land were excluded in the survey.⁵ This survey also contains some shortcomings, as shown in the Chung-Ang University's survey. Oshima concluded that Korea is less unequal than the U.S.A., Japan, and Taiwan. The results are weak because the distribution did not cover all units in Korea and the study had the shortcomings already mentioned

D. Irma Adelman (1964-1970)

The estimation of the size distribution of income by Irma Adelman was based on the results of the Farm Household Survey, wage distribution data from the 1967 and 1970 Report on Wage Survey, and her method of distributing employer and property income. The Farm Household Survey itself has shortcomings as mentioned earlier. It is not feasible to convert individual income from a Wage Survey into household incomes. The results show that between 1964 and 1970, income distribution remains unchanged. In 1970, the share of the top 20 percent of the population was 44 percent and that of the bottom 40 percent of the population was 18 percent. The income distribution of the self employed in agriculture was more equal than many others, and that of property income is less equal than the others.⁶

E. Chae's Estimates Based on Tax Data (1970)

Chae performed the same analysis on the 1970 tax data found a much improved income distribution in 1970 for overall and agricultural incomes. The degree of inequality for wage and salary earners declined. As mentioned earlier, tax data were underreported. In 1970, the tax system of income imposed a global income tax on limited higher income earners, and most of the tax was levied individually according to the source of income.

The distribution of income using tax was based on the individual earner's, not the household's, income.⁷

F. Jain's Estimates (1966,1968,1970,1971)

Jain estimated Korea's size distribution of income using the Chung-Ang University Income and Expenditures Survey of 1966, the Farm Household Economy Survey of 1971, the City Household Survey of 1971, the Annual Report on the Family Income and Expenditures Survey of 1970, and the 1970 Korean Wage Survey Summary Report.⁸ Jain indicates that the data reported in his paper are not reliable or even best estimates and that his paper was simply to present a compilation of available statistical information as part of an on-going larger program of work in this area.⁹ As mentioned earlier, these estimates contain several shortcomings. The estimates show that between 1966 and 1970 income inequality deteriorated in terms of the Decile Distribution Ratio and Gini coefficient, and that between 1970 and 1971 income distribution improved.¹⁰

G. Choo and Kim's Estimates (1965,1970,1976)¹¹

Based on the City Household Survey and the Farm Household Economy Survey, some adjustments made in the process of deriving these estimates have shortcomings. 1) Landless farm laborers and farm households owning less

than 0.245 acre are excluded and account for 4.9 percent of total farm households. 2) Income tax data were used to estimate the income of nonfarm households above the income ceiling of the City Household Survey. 3) The income of rural, nonfarm households were estimated indirectly by assuming that the income distribution patterns for these households were similar to those of other cities excluding Seoul. The number of rural, nonfarm households amounts to 14.5 percent of the total households in Korea. 4) The incomes of the self-employed were estimated by converting consumption data into income by assuming that consumption and savings patterns of these households are similar to those of the salary earners.¹² Dr. Choo himself recognizes that the validity of these assumption can be debated. He also indicates that the estimates are approximate.¹³ In summary, Korea's main household surveys should be modified and improved so that the surveys can cover all units in Korea and include sample proportional to the population. This is further to analyze the movement and the changes of income distribution in detail and to design more adequate policies to improve income distribution than she would be in a situation of no better data.

H. The Changes of Size Distribution of Income in Korea

Based on the official data on income distribution in Korea, we can suggest the trend of income distribution comparatively over time. Before the examination, we note that the official data are derived by Drs. Choo and Kim and that the data have shortcomings as mentioned earlier in Chapter IV. We also should reiterate that the main structural change between 1963/65 and 1978/80 was the sharp drop in agricultural output and employment share, and the rapid increase in the industrial sector. Furthermore, the differentials among sectors widened. Table 12 shows that income inequality in Korea deteriorated between 1965 and 1980 in terms of the decile distribution ratio and Gini coefficient. The share of the bottom 40 percent of the population decreased from 19.34 percent in 1965 to 16.16 percent in 1980, and the share of the top 20 percent of the population increased from 41.8 percent to 45.39 percent. We see that the share of the middle 40 percent of the population remained almost the same, ranging from 39.25 percent in 1965 to 38.45 percent in 1980.

In 1965 and 1970, the income distribution remained almost the same; likewise for 1976 and 1980. From 1970 to 1980, income inequality deteriorated. The share of the

bottom 40 percent of the population decreased from 19.63 percent in 1970 to 16.16 percent in 1980, and the share of the top 20 percent of the population increased from 41.62 percent in 1970 to 45.39 percent in 1980. We see that the share of the middle 40 percent remained almost the same, ranging from 38.75 percent in 1970 to 38.45 percent in 1980.

Table 13 shows that size distribution of income is more equal in agricultural households than in non-agricultural households. The trend is the same as overall income distribution. From 1970 through 1980, in the agricultural household sector, the share of the top 20 percent of the population increased to 38.64 percent to 42.49 percent, and the share of the bottom 40 percent group decreased from 21.24 percent to 17.40 percent. The share of the middle 40 percent group remained unchanged, ranging from 40.12 percent in 1970 to 40.03 percent in 1980. In the non-agricultural household sector, the share of the top 20 percent group increased from 43.04 percent to 46.89 percent, and the share of the bottom 40 percent population decreased from 18.87 percent to 15.29 percent. The share of the middle 40 percent group remained almost the same, ranging from 38.09 percent in 1970 to 37.82 percent in 1980.

Table 12. Size Distribution of Income and
Measure of Inequality : 1965-1980

Decile	1965	1970	1976	1980
First	1.32	2.78	1.84	1.57
Second	4.43	4.56	3.86	3.52
Third	6.47	5.81	4.93	4.86
4th	7.12	6.48	6.22	6.11
5th	7.21	7.63	7.07	7.33
6th	8.32	8.71	8.34	8.63
7th	11.32	10.24	9.91	10.21
8th	12	12.17	12.49	12.38
9th	16.03	16.21	17.84	15.93
10th	25.78	25.21	27.50	29.46
Gini coefficient ^a	0.3439	0.3322	0.3808	0.3891
Decile Distribution Ratio	19.34/ 41.81	19.63/ 41.62	16.85/ 45.34	16.16/ 45.39

Source : EPB. Korean Economic Indicator, 1984 : 15.

: EPB. Social Indicators In Korea, various years.

^a

The ratio of the share of the bottom 40 percent of the population to the share of the top 20 percent of the population.

Table 13. Size Distribution of Income and
Measures of Inequality : 1970-1980

	Agricultural households			Non-agricultural households		
Decile	1970	1976	1980	1970	1976	1980
1st	3.17	2.46	1.76	2.56	1.64	1.46
2nd	5.19	4.32	3.88	4.67	3.56	3.31
3rd.	6.00	6.05	5.29	5.33	4.61	4.65
4th	6.88	6.62	6.55	6.31	5.55	5.87
5th	8.10	7.81	7.83	7.45	6.56	7.12
6th.	9.01	9.13	9.13	8.41	7.83	8.40
7th	10.59	10.48	10.66	10.02	9.52	10.07
8th	12.42	12.51	12.71	12.21	12.03	12.23
9th	17.87	16.79	15.98	16.29	18.56	16.09
10th.	20.77	23.83	26.51	26.75	30.14	30.80
Gini coefficient	0.2945	0.3273	0.3555	0.3455	0.4118	0.4053
Decile Distribution Ratio	21.24 / 38.64	19.45 / 40.62	17.48 / 38.67	18.87 / 43.04	15.36 / 48.70	15.29 / 46.89

Source : Data for 1980 from EPB, Social Indicators in Korea, 1983 : 15

: Data for 1965, 1970, and 1976 from Choo, Hak-chung and Daemo Kim, op.cit., 1978.

1. The Comparison of Income Distribution between Korea and Taiwan

Korea and Taiwan have many similarities since 1910. The two countries were controlled by Japan until 1945 and were developed for Japanese needs. After World War II, the two countries were controlled by the U.S. military government for two to three years. Under the U.S. military government, land reform was made, and a U.S.-type, universal, free primary school system was introduced to the two countries. The two countries emphasized import-substitution industries in the 1950s and have achieved rapid economic growth through export expansion of labor-intensive goods since the early 1960s.

Tables 14 and 15 show that Taiwan's income¹⁴ distribution has improved, while Korea's income distribution has deteriorated over time. Table 15 clearly shows that there are some differences in the trend of income distribution between the two countries. 1) The share of the bottom 40 percent of the population in Taiwan increased from 8.9 percent in 1953 to 22.3 percent in 1979 and 22.5 percent in 1982, but that in Korea decreased from 19.34 percent in 1965 to 16.16 percent in 1980. 2) The share of the middle 40 percent of the population in Taiwan increased from 29.3 percent in 1953 to

35.8 percent in 1979 and to 40.2 percent in 1982, but that population's share in Korea remained almost the same between 1965 and 1982. 3) The share of the top 20 percent of the population in Taiwan decreased from 61.8 percent in 1953 to 41.9 percent in 1979 and to 37.3 percent in 1982, but that in Korea increased from 41.41 percent in 1965 to 45.39 percent in 1980.

Table 14. The Comparison of the Changes on Income Distribution between Taiwan and Korea

Taiwan	The share of the top 20%	the share of the middle 40%	the share of the bottom 40%
1953	61.8	29.3	8.9
1964	46.6	33.3	20.3
1970	43.3	35.	21.7
1976	41.5	36	22.5
1979	41.9	35.8	22.3
1982	37.3	40.2	22.5
Korea			
1965	41.41	39.25	19.34
1970	41.62	38.75	19.63
1976	45.34	37.83	16.85
1980	45.39	38.45	16.16

Source : Council for Economic Planning Development,
Taiwan Statistical Data Book, 1984.

: Data for Korea from Table 12.

Table 15. The Trend of Income Distribution between
Korea and Taiwan

	The share of the bottom 40%	the share of the middle 40%	the share of the top 20%
Korea	↓	Δ	↑
Taiwan	↑	↑	↓

Source : From Table 14.

Notes :

↓ denotes decreasing

↑ denotes increasing

Δ denotes unchanging

Through our subsequent discussion, we will point out differences between Korea's and Taiwan's policies in the process of economic growth. Furthermore, we will indicate that in the case of Taiwan, the combination of economic growth and improved income distribution results from policies. The combination results, in part, from Taiwan's land reform and mass education before economic growth.

We can see that the greater income inequality in Korea than in Taiwan results from the fact that the lower income groups have benefited less from overall growth (Table 16). We also see that the incremental share of the bottom 60 percent of the population in Taiwan is larger than in Korea between the middle of the 1960s and

the 1970s. We note that These data are in a relatively short-term period.

Table 16. Changes In Income Distribution between
Korea and Taiwan : In 1970 U.S. dollars
adjusted for purchasing power.

	Period of Observation	Per Capita Income	Increments in per Capita Income		
		Initial Year	Total	Top 40 percent	Bottom 60 percent
Korea	1965-76	362	540	938	275
Taiwan	1964-74	562	508	758	341

	Period of Observation	Share of Bottom 60 percent			Growth Rate in per Capita Income	
		Initial	Final	Incremental	Total	Bottom 60 percent
Korea	1965-76	0.349	0.323	0.311	8.7	7.9
Taiwan	1964-74	0.369	0.385	0.395	6.6	7.1

Source : Ahluwalia, Montek S., Nicholas G. Carter, and
Hollis B. Chenery. " Growth and Poverty In
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54.

V. Policies and Measures which affected the Changes of Income Distribution

As discussed in Chapter IV, income inequality in Korea deteriorated between 1965 and 1980, especially in the 1970s. Here we discuss tax, expenditure, monetary, exchange-rate, agricultural price, and educational policies, and how they affected income distribution.

A. Tax Policy

The Korean government has a tax system to support rapid economic growth through tax exemption and a preferential tax for selected key import-substitution and export expansion industries, and to increase the government's savings for public investment. The rate of gross tax burden to GNP increased from 10.6 percent in 1962 to 19.1 percent in 1981.¹ The Korean tax system is characterized by the concentration on indirect taxes and the neglect of a progressive income tax.

The ratio of indirect taxes to GNP increased from 5 percent in 1962 to 11.7 percent in 1980.² Indirect taxes³ included a value added tax, a special consumption tax, customs duties, and defence surtaxes. The government permitted the exemptions of customs duties of goods imported for the purpose of exports, and of foreign capital goods for selected industries. That firms receiving exemptions tend to be more capital-intensive.

The direct taxes included the income tax, corporation tax, inheritance tax, property income tax, revaluation tax, and excess profits tax. The direct taxes as a percentage of GNP increased slightly from 4.3 percent in 1962 to 4.8 percent in 1980. All income from foreign currency earning activities was eligible for a 30 to 50 percent reduction of income and corporation tax until 1973. Selected key industries, including import-substitution and export expansion industries have been exempt from income, corporation, and business taxes for the 5-year period after beginning operation since 1970.

In Korea, the progressive personal income tax is applied to income, inheritance, gift, and property taxes. The ratio of progressive taxes to GNP is about 3 percent. There are no data available on income distribution before and after taxation in Korea; however, Korea depends mainly on indirect taxes, which are regressive in that people with lower income pay a larger percentage of income in taxes. The main selected industries have enjoyed tax holidays in direct and indirect taxes. Furthermore, the ratio of progressive taxes to GNP is very small. We can suggest that the tax system in Korea be, partly, responsible for the deterioration of income distribution, and that preferential tax structure distort prices, and favors capital intensive methods. Table 17

shows the ratios of direct and indirect taxes to GNP by selected years.

Table 17. The Ratio of Direct and Indirect Taxes to GNP
(percent of GNP)

Year	Direct taxes	Indirect taxes
1962	4.3	5.
1965	4.6	3.7
1970	6.3	6.0.
1976	6.1	7.9.
1980	4.8	11.7
1983	4.5	11.5

Source : Computed from BOK, National Tax Administration and EPB data.

B. Expenditure policy

The question of interest here is whether the Korean government considered redistributing income to the lower income group through government expenditures.

It has long been recognized that the qualities of a nation's people have an important influence on its prosperity and growth. This is because human beings are the source of ideas, decisions, and actions on investment, innovation, and other opportunities. Human development encompasses education and training, better health and nutrition and fertility reduction. Table 18 shows that

the government spent only a small percentage of its expenditures for health, social security, welfare, and housing. The government left some aspects of human development to the private sector. Eventually, the lower income group had a big burden relative to the higher income group. The government did spend 4 percent of GNP for education with a large emphasis on primary schools. We will further discuss educational policy later. In summary, we suggest that the government itself did not pay attention to a redistribution of income to the lower income group through government expenditure.

Table 18. Government Expenditure Ratio for Selected Years
(as percentage of GNP)

Government Expenditure on	1962	1972	1976	1980
Education :	3.2	3.8	3.7	4.6
Health :	0.6	0.2	0.3	0.5
Welfare & Social Security:	1.1	1.0	0.8	1.3
Housing and community Development :	0.1	0.1	0.4	0.6
Transport, Communication : Water, Road, Water way Fire protection	1.9	2.9	3.2	2.5
Defense, General Admini- stration and Justice Police :	9.9	6.8	8.3	9.5
Other and Economic :	7.7	5.7	4.3	5.9
Total :	24.5	20.5	21.0	24.9

Source : Computed from BOK data.

C. Monetary Policy

In this section, we first look at the money supply and inflation in Korea. Second, we discuss the limitations of monetary policy by a large, unorganized financial market and the government's intervention into the Central Bank and other bank institutions. Third, we discuss the distortion, resulting from the lower interest rate and credit rationing in the 1970s. As a result of lower interest rates, a high inflation rate, and negative real interest rates, there has always been a huge excess demand for bank loans in Korea. Eventually, the banking system serves as the agent for allocating credit according to the government's guidelines.

1. Money Supply and Inflation

Between 1962 and 1981, the yearly average growth rate of money supply (M1=Currency in circulation and demand deposits) was 27 percent and the total money stock (M2) 36 percent.⁶ Thus the growth rate of the money supply is very high. The yearly average inflation rate (indicated by the GNP deflator) was 18 percent between 1962 and 1981.⁷ Korea's inflation rate is much higher than that of Taiwan. Dr. Nam indicated that the rapidly-expanding money supply was the main factor contributing to inflation in Korea, and that the increase in imports and real output kept inflation rates down.⁸

Under a high and persistent inflation, households seek to protect themselves against inflation by converting their savings into real values through the purchase of housing, land, and precious materials. A income and wealth which benefits those whose income and wealth increases more rapidly than price, and is prejudicial to those whose income and wealth increase more slowly than price.⁹ In fact, Korea has suffered a high and persistent inflation rate of 20 percent a year between 1953 and 1962, and 18 percent a year between 1962 and 1982. Taiwan has maintained lower inflation rates of 8.7 percent, 2.9 percent and 10.9 percent a year (indicated by Urban Consumer Prices), respectively, in the periods of 1953-1962, 1963-1972, and 1973-1982.

Here we can see that high inflation increased inequality of wealth. In Korea, there is a critical shortage of housing arising out of high net rural-urban migration, little public expenditure to housing, and dependancy on the private sectors. The housing supply ratio of the number of housing units to the total households in all the cities was about 60 percent between 1966 and 1981.¹⁰ High inflation made nominal low interest rates of bank loans negative real interest rates. Households purchased housing, land, and gems. Eventually, there was speculation in real estate. Soaring prices of

housing and land by real estate speculation rose 84 times between 1964 and 1976, in compared to the price of consumer goods which rose six times (indicated by Seoul Consumer Prices).

In Korea, the credits by all the bank institutions are allocated to the policy credits for some key industries at more than 50 to 60 percent of the total bank credits, and most banks require collateral. Furthermore, most of housing and land can be purchased with all payment of the total price within one or two months. Under the circumstances, the lower income and least wealthy households possess scarcely any real assets. This situation does not prevail, however, at the other end of the wealth spectrum. Indebtedness is easily accessible to households possessing a minimum degree of wealth. They get lightening of the debt road and capital gains on real estate.

Soaring prices of housing and the demand for housing which much exceeded the supply resulted in increasing rent. And the ratio of household housing expenditure to total consumption expenditure increased from 17.9 percent in 1966 to 24.2 percent in 1980. The lower income and least wealthy households, which do not have their own housing, had a big burden because of the increasing household housing expenditure.

2. The Limitation of Monetary Policy

There is a large unorganized market (curb market) in Korea. The size of the unorganized market is very difficult to approximate. In Korea, the 1972 Presidential Emergency Decree compelled corporations to reveal the outstanding amount of their debts in the curb markets. At the same time, corporations' debts in the curb market amounted to 356 billion won, equal to the one - third of the outstanding loans of deposit-money banks.¹² Based on surveys of both all cities and farm households, and estimates from the 1972 Decree, the size of the current market at the end of June 1980 was estimated to be more than 1,550 billion won, equivalent to 12.4 percent of the outstanding loans of deposit-money banks.¹³ We see that the unorganized market is not small in Korea.

Monetary policy is traditionally the province of the Central bank, but Korea's Central Bank has been under government control, and the Minister of Finance has the right to veto the Monetary Board's decisions. Furthermore, the government took control of the administrative rights of commercial banks, so that the bank system serves as the agent for allocating credits according to the government's priorities. The Central Bank can not determine its own liabilities, and bank

behavior is not necessarily governed by profitabilities or other market considerations.

3. Negative Real Interest Rates and Credit Rationing

The government actually controlled interest rates and credit rationing. In Korea, interest rates were significantly lower than the inflation rate in the 1970s(see Table 19). Such negative real interest rates encouraged the public to hold real estate and precious metals under high inflation and real estate speculation. By lowering the real cost of capital, they permit investments to take place where marginal rates of return are low. This led to excessively high capital intensity. Eventually, this leads to a lowering of the average efficiency of investment. In terms of equity, the results may be adverse, since inflation is the cause of a drop in real interest rates and thus of a transfer from lenders to borrowers, through the allocation of most bank loans to selective industries.

Table 19. Nominal and Real Interest Rates, 1970-980
(percent per annum)

Year	1971	'72	'72	'73	'74	'75	'76	'77	'78	'79	1980
Nominal	16	11	11	11	11	14	14	14	15	16	13.7
Average Interest Rate (1971-1980)					Inflation Rate				Real Interest Rate ^a		
	13.7				19.8				-6.1		

Source : IMF. International Financial Statistics.

^a

Real interest rate(r) is defined nominal interest rate(i) deflated by inflation rate(p).

Who are the beneficiaries of the rationing ? Policy credits are provided to special beneficiaries in accordance with the allocation of the available supply of funds. Policy credits are concentrated on supporting exports, fostering basic industries, and capital-intensive and high skilled labor-intensive industries for steel, shipbuilding, heavy machinery, chemical and electronic products.¹⁴ The credits by all the bank institutions are allocated to the policy credits are more than 50 to 60 percent of the total bank credits. As shown in Table 20, policy credits are favored at lower interest rates than general credit in the banks, and six to nine times that of the curb market. A larger proportion of small and medium industries and households go to a curb market in order to borrow money at a higher interest rate. Under preferential lower interest rates and negative real interest rates, the industrial structure in Korea could shift from labor-intensive industries to high skilled and capital-intensive industries in the 1970s.

Table 20. Interest Differential among general Bank Loans
and Policy Credits and the Curb Market Loans

Year	General Credits	Policy Credits	Curb Loans
1962	16.4	9.1	.
1963	15.7	9.1	52.5
1965	26	6.5	58.9
1966	26	6.5	58.7
1970	24	6.0	48.6
1971	22	6.0	46.4
1975	15.5	9.0	41.3
1979	19	9.0	42.4
1980	20	15.0	44.9

Sorce : BOK. Economic Statistics Yearbook. Various years.

D. Exchange-Rate Policy

Although Korea has had a floating exchange rate system since May 1964, the rate has arbitrarily been managed by the government, not by the market forces. Korea's foreign debts of both public and private bases amounted to \$44 billion at the end of 1984. In Korea, the exchange rate has been viewed partly as an instruments for tackling the balance of payments problem and in part for prompting exports. In the 1970s, the exchange rate tended to be overvalued in view of very heavy debts. The

government supported exporters by the exemption of customs duties, preferential tax, and export financing in order to offset disadvantages of an overvalued exchange rate. As shown in table 21, we see changes in real effective exchange rate during 1974-1980 deviated from 1972-73. The overvaluation of the exchange meant a cheaper cost of foreign exchange and capital goods. This caused more imports of capital goods. Imports of capital goods in Korea increased from \$0.76 billion in 1972 to \$5.1 billion in 1980, based on customs clearance. The overvaluation may be responsible, in part, for increasing imports of capital goods. Industries in the late 1970s may have chosen capital-intensive techniques and employed less labor relative to that of 1972.

Table 21. Real Effective Exchange Rate^a / 1972-1980

(1972-1973=100)									
Year	1972-73	'74	'75	'76	'77	'78	'79	1980	Average
Rate	100	97	90	95	93	91	103	95	95

Source : Agarwala, Ramgopal. Price Distortion and Growth
In Developing Countries. World Bank Staff

Working Paper No. 575, 1983 : 20

^a Defined as import-weight exchange rate adjusted by the ratio of domestic price index to import-weighted combination of consumer price indices in the trading partners.

E. Agricultural Price Policy

Rice is of great importance in the Korean economy. It is a predominant user of agricultural land; of the 2.2 million hectares of land under cultivation in 1980, 1.3 million hectares (about 59 percent) were rice paddy land. It also accounted for 56 percent of agricultural receipts¹⁵ in 1970 and 49 percent in 1980. We focus on the rice price program. The Korean rice price policy is to increase income in rural areas, reduce the country's dependence on imports, hold down urban price, and protect consumers. First, we deal with rice production, consumption, and government deficits from the price program between 1970 and 1983. Second, we discuss who are the beneficiaries of the price program. Third, we see that the increase of rice production is inefficient in resource allocation.

1. The Size of Rice Production, Consumption and Government Deficits under the Price Program

Rice production increased from 3,933 M/T in 1970 to 5,403 M/T in 1983. This increasing production results from the introduction of new rice varieties, expansion of cultivated land, and supporting its price. Rice consumption increased from 3,496 M/T in 1970 to 5,173 M/T in 1983, while rice consumption per capita a year

Increased from 121.8 kg in 1965 to 129.5 kg in 1983.¹⁶
Increased rice consumption results from lowering consumer
prices below what would have been without the price
program, and the increase of population and national
income.¹⁷ Family budget studies by National Agricultural
Cooperative Federation indicate an urban income
elasticity of demand for rice of about 0.45.¹⁸ Thus urban
family demand for rice increases as the relative family
income level improves.

Government purchases as a fraction of production
have risen from 8.9 percent in 1971 to 23.4 percent in
1978. The government yearly deficits of the Grain
Management Fund (GMF) increased from 2.8 billion won in
1970 to 300 billion won in 1985. The accumulated deficits
of the GMF accounted for 2,000 billion won in 1985. The
deficits are financed mainly by a money supply increase
from the Central Bank at 2 percent a year. Several
studies have indicated that the quantity of money supply
explains much of the inflation experienced in Korea.¹⁹ The
Rice price program may have inflationary consequences
through a increase of money supply.

2. Who are the beneficiaries of the Rice Price Program

An increase in the purchase price of rice
would constitute an increase in farm income on the

portion of the price crop that is sold. Larger farms market a greater amount of rice than small farms. They benefit more from an increase in the purchase price.

Table 22. The Ratio of Rice Cash Income to Farm Household

Income by Farm Size : (Unit : Thousand Won)					
Year	Farm Size in Acres				
	< 1.2	1.2-2.5	2.5-3.7	3.7-4.9	4.9>
1978					
Farm Household Income (A)	872	1,192	1,651.	2,162	2,993.
Rice Cash Income (B)	49	171	337	551	1,054
B/A (%)	5.6	14.3	20.4	25.5	35.2
1984					
Farm Household Income (A)	3,904	4,698	5,568.	6,940.	8,637.
Rice Cash Income (B)	184.	670	1,268	2,168.	3,186.
B/A (%)	4.7	14.3	22.8	31	37

Source : R.O.K. Ministry of Agriculture and Fisheries.

Reports on the Results of Farm Household Economy Survey. 1978 and 1984.

Table 22 shows that smaller farms owning less than 1.2 acre of the crop land market rice much less than larger farms owning more than 2.5 acres. The smaller farms account for 33 percent of the total farm households

and the larger farms 32 percent. Rural households, which are purchasers of rice, and nonfarm households outside urban areas do not benefit from rice sales in urban areas for less than the cost of acquisition. They pay the prevailing rural price of rice at harvest time, and the higher prices connected with seasonal storage costs later in the crop year.

Since the price program purchases a certain quantity of rice at harvest time, lowers somewhat the average wholesale price paid in urban areas, and increase rice production, this program has also been beneficial to all the consumers in urban areas. The lower income groups consume rice less than the middle- and higher- income groups. There are no available data of rice consumption by income group in Korea; however, expenditures on cereals, but rice separately are available for Korea in the Annual Family Income Expenditure Survey. These data indicate that the middle- and higher- income households consume cereals more than the lower income households. In summary, more benefits from the price program go to the middle- and higher- income groups than the lower income groups.

3. Inefficiency of Resource Allocation

The price program raises the farm price and increases rice production, while this program lowers the

average wholesales price and increases consumption. Korea is a relatively high-cost producer of rice and the government purchase price of rice is two times that of the world market as shown in Table 23. Eventually, the government program leads to inefficiencies in resource allocation by distorting the structure of market prices.

Table 23. The Comparison between Export Price of F.O.B.

Bangkok and Government Purchase Price (U\$/MT)

Year	Exchange Rate	Export Price of White Price F.O.B.Bangkok	Government Purchase Price
1970	316	143.9	250
1971	373	131.9	274
1972	349	143.6	310
1974	398	368.1	357
1975	484	364.2	407
1976	484	241.8	503
1977	484	272.3	671
1978	484	368.2	671

Source : UN Monthly Bulletin of Statistics May 1979.

: FAO Rice Report 1974-1975.

F. Educational Policy

Education can help in reducing poverty, increasing income, improving health and nutrition, and reducing family size and population growth. Some economists

Indicate that the rapid growth in industrial sector could be based on significant improvement in the quality of the labor force. There is a shortage of natural resource in Korea, but abundant labor. In 1910, Japan introduced a new educational system. In 1945, the U.S. military government launched a universal, free primary school system. Thus, Korea had the educated labor and concentrated on labor-intensive industries relative to capital-intensive industries. Korea could expand exports of labor-intensive goods in the 1960s and the early of 1970s. Korea may have been able to moderate increasing income inequality through the expansion of employment opportunities linked to the exports of unskilled labor-intensive goods. the industrial structure has, however, been shifting from unskilled labor-intensive and light industries to high skilled labor- and capital-intensive industries in the late 1970s. Under such a change of industrial structure, industries needed high skilled labor. Here we review whether educational policy gives an equal opportunity for higher schools, which provide high skills and more scientific and technical areas than high schools, to the students from both the lower- and higher income families. Secondary schools are designed to equip students for further education. Second, we discuss higher burden of high tuition fees on the lower income groups so

that they can not have further education, which contributes to greater income inequality, coupled with the wage gap through schooling.

The characteristics of educational policy in Korea are little public expenditure and high tuition fees system in higher schools. In 1980, the government spent 3 percent of GNP on primary and secondary (middle and high) schools, and 0.3 percent on colleges and universities. The government leaves a large portion of higher schools to private institutions. The entrance rates of primary, middle, and high schools are 97.9 percent, 95.7 percent, and 84.5 percent in 1980, respectively. About 10 percent of total high school students entered colleges and universities in 1975. In Korea, there are two kinds of high schools, i.e. general and vocational schools. The general school is designed to equip students for further education. Vocational school is divided into the academic course for further education and the vocational training course, which provides skills for those seeking immediate employment. Based on 1975, 84 percent of the total high school students were enrolled in general high schools and 16 percent in vocational high schools. General high school graduates find it difficult to obtain industrial employment, and high school graduates have the highest unemployment rate by educational attainment. In Korea,

higher schools consist of a large portion of private institutions at high tuition fees. The general high school is designed to equip students for further education. Eventually, many students from lower income families do not have an equal opportunity for higher schools because of high tuition fees. The high tuition fees in colleges and universities are preventing the students from the lower income families from having access to higher schools (see Table 24).

Table 24. Ratio of Tertiary Yearly Fees to Disposal

Income : 1978 (Thousands In Won)			
Income	Disposal Income	Ratio of Fees per year to Disposal Income(%)	
		Public Schools	Private Schools
48	43.68	40	79
72	64.80	26	53
96	85.2	20	41
120	104.88	17	33
150	128.58	14	27
180	151.08	12	23
240	193.08	9	18
300	232.08	8	11
480	340.08	5	10
720	472.08	4	7

Source : Bae, M. Kee Income Distribution and Educational Investment. Seoul : KDI, 1978.

This clearly means that many students from the lower income families have not an equal opportunity for higher schools, and that the present educational system of Korea makes higher education, unequally accessible to families with differentials of income. Furthermore, income inequality between two families widened, coupled with a wage gap through schooling (see Tables 25 and 26)

Table 25. Monthly Wage by Career and Schooling : 1978

(Thousands in Won)

Career	Primary	Middle	High	College	University
1	49	53	80	123	202
5	78	90	130	183	272
10	125	145	204	263	353

Source : KDI. Welfare of Retired Men and Enhancement of Equity. Seoul : KDI , 1978.

Table 26. Wage Index by Educational Obtainment

Year	Primary	Middle	High	College	University
1967	100	126	184	-	333
1971	100	122	187	-	331
1973	100	118	188	252	352
1975	100	118	190	260	409
1977	100	111	176	259	405

Source : Data for 1967 from BOK, The 1967 Report on Wage Survey.

: Data for others from Labor Administration,
Report on Wage Survey. Various years.

Endnotes for Chapter V

1. EPB. op. cit., 1982, p. 175
2. Op. cit., pp. 189-91.
3. In 1976, the government decided that all indirect taxes should be incorporated in a value added tax and implemented at a rate of 13 percent of value with a 3 percent flexible band, starting July 1, 1977. Goods and services for exports and overseas air or marine transportation are subject to a zero percent value added tax.
4. National Tax Administration Revenue of Korea. Statistical Yearbook of National Tax. Seoul : NTARK, 1984, : 19-23.
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6. EPB. op. cit., 1982, p. 182.
7. Op. cit., p. 6.
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 24. EPB. op. cit., 1983, p. 101.

VI. Summary and Conclusion

This paper reviewed the Korean economy between 1910 and 1962 so that we can further understand the economic growth and income distribution since 1963. Korea was developed by Japan between 1910 and 1945. The development by Japan may have been helpful, in some aspects, for Korea's post World-War II economic growth. Japan introduced a new educational system, irrigation facilities, new varieties of rice, various land surveys, and textiles and light industries in the south (now South Korea). Transportation and communication, i.e. telephones, telegraphs, highways, railways, railroads, and harbors were also developed. The annual growth rate of the goods sectors was 3 percent during the colonial period. Korea's growth was, however, imposed by Japan, not by Korean will and plan. We reviewed that the Japanese minority dominated the Korean economy and established a dual economy. We could conjecture that Korea's income distribution may have deteriorated, under the colonial and dual economy, through the land-tenure system with tenants of 70 percent of the total rural households, high rent, and the introduction of capital intensive industries by Japanese. We reviewed the Korean economy between 1945 and 1962. The Korean economy was in a very difficult situation because of the division of the coun-

try at the 38th parallel in 1945, and the Korean War between 1950 and 1953. The Korean economy has suffered a high inflation, a shortage of food and fertilizer, and little export earnings. Korea benefited much from foreign assistance, and imported food, fertilizer, crude oil, and capital goods for import-substitution industries. The annual average growth rate of GNP was 4.2 percent between 1953 and 1962. We may call this period of economic growth dependent on foreign assistance. This paper reviewed the initial conditions of more relatively favorable distribution of human and physical capital in Korea before rapid economic growth than most LDCs. Korea had land reform, a universal, free primary school system, and the radical changes of physical capital between 1945 and 1962. We see that they may have made Korea's income distribution less unequal than most LDCs. The number of tenants after land reform decreased from 49 percent in 1945 to 5 percent in 1964 and the adult literacy rate increased from 22 percent in 1945 to 71 percent in 1970 and to 93 percent in 1980. After the revolutions by students in 1960 and by military in 1961, the government confiscated illegally accumulated wealth and settled rural usurious loans, whose interest rates exceeded 100 percent per annum.

We reviewed the Korean economy between 1962 and 1981. GNP grew at 8.6 percent a year at constant (1975) prices

and exports at 36.7 percent per year. The exports of labor-intensive goods led economic growth in the 1960s and the early 1970s and those of high skilled labor-intensive - and capital-intensive goods in the late 1970s. The rapid economic growth has substantially changed Korea's industrial structure. We see that the industrial and services sectors led in the share of output and employment, and the share of the agricultural sector declined. Especially, the GDP per worker of the non-agricultural sector is getting larger relative to the GDP of the agricultural sector. We see that the differentials among sectors widened.

This paper examined the trends of income distribution in Korea. We first reviewed the earlier studies of empirical evidence on income distribution in Korea, and pointed out some shortcomings of the studies. These shortcomings resulted from the main household surveys. This paper suggests that Korea modify and improve the prevailing household surveys so that the surveys can include all units in Korea, and the sample is selected proportionately to the population.

The official data indicate that Korea's income distribution has deteriorated over time. The greater income inequality resulted from the increased share of the top 20 percent group and the decreased share of the

bottom 40 percent group. This paper checked whether development in the period of 1965-1976 has been accompanied by such an increase in inequality that the lower income groups have benefited less from overall growth. Although these data are in a short-term period, we see that the growth rate in per capita income of the bottom 60 percent of the population was less than of the bottom 60 percent of the population was less than of the total population.

We compared the trend of income distribution between Korea and Taiwan over time and found out the differences of the trend between the two countries. Two countries have some similarities as mentioned earlier. Taiwan has improved income distribution between 1953 and 1982, and has achieved rapid economic growth since 1961. We can suggest that there are differences between Korea's and Taiwan's policies in the process of economic growth. A detailed comparison of the main policies of the two countries should be made. This will be very useful for Korea's income distribution and economic growth. The study is beyond this paper.

This paper checked whether or not the Korean government has carried out adequate income distribution policy together in the process of rapid economic growth since 1963. We reviewed some policies and measures which

affected the changes of income distribution, especially in the 1970s. 1) Tax revenues consist of a small portion of progressive income taxes and a large portion of regressive indirect taxes. Some selective industries are favored with preferential taxes. 2) The government expenditure clearly indicates the neglect of health, housing, social security, welfare, and higher education. 3) The failure to stabilize prices resulted in real estate speculation through a shortage of housing, the increasing demand for housing, high inflation, and negative real interest rate. The higher income and wealth groups get the lightening of debt load and capital gains on the real estate. The control of low nominal interest rates, leading to negative real interest rates under high inflation, and the rationing of credits, resulted in excessive capital intensity and lowering the average efficiency of investment. 4) Exchange rate has been arbitrarily managed by the government and has been overvalued. The cheaper cost of foreign exchange leads to a more capital-intensive method, employs labor less, and makes resource allocation inefficient. 5) More benefits from the agricultural price program go to the middle- and the higher income groups. The program leads to inefficiencies in resource allocation by distorting the structure of market prices. 6) Korea's educational policy

leads the high enrollment rates of primary and secondary schools, which are designed to equip students for further education. Without public expenditure for the lower income group in higher schools, high tuition fees prevent many students from the lower income households from having an equal opportunity for further education. The policy makes high school graduates the highest unemployment rate by educational attainment. An unequal opportunity attendance of higher schools widened the differentials between the lower- and the higher income groups because of the big wage gap through schooling. We conclude that Korea onesidely emphasized rapid economic growth without adequate income distribution policy.

Korea should combine some policies to sustain economic growth, improve income distribution, and reduce population growth. Some policies are aimed at removing incentives for excessive use of capital in individual sectors, thereby helping to increase employment. Some policies can be designed to make resource allocation efficient and to minimize the government's intervention into some economic activities, emphasizing that income distribution should center on growth-related policies.

First, the government should increase public expenditure for the lower income group in health, social security, wealth, housing, and higher education. And

Korea should decrease the expenditure on defense and general administration, which consist of about 40 percent of the total government expenditures. This policy may develop human resource, increase income and productivity, decrease fertility rate and population growth, and improve income equality.

Second, Korea should further decrease the rate of natural increase of 16.8 per thousand persons, the crude birth rate of 24 per thousand population in 1982, the labor force growth rate of 2.6 percent between 1970 and 1981, and dependency ratio (persons 0-14, and 65 years and older to persons of working ages, 15-64 ages) of 38 percent in 1980.² The government should thoroughly continue both family planning programs and policies promoting socioeconomic development. Korea should pursue policies that stress the social equality of men and women because the preference for sons is one of the strongest factors influencing fertility behavior in Korea.³ Furthermore, couples will not use contraceptives unless they are motivated to limit births. Because education is felt to be the most obvious means for recasting traditional values, the government should make use of high enrollment rates in secondary schools through population education in the curriculum. Korea should further decrease infant mortality rate of 35 per 1,000 persons

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and the crude death rate of 6.5 in 1982 through easy access to health care and expansion of health insurance in rural areas, which have high fertility rate, the improvement of housing, nutrition, sanitation, and the widespread provision of basic preventive. In Korea, three-quarters of all incidence of disease apparently could be avoided if sanitation, nutrition, housing and water supplies were further improved.⁵ Under slower population growth than now, small families may have changed the patterns of household expenditure and saving and also have made the housing shortage more tolerable. More important benefits from the decline in fertility rate will begin to take effect as the growth of labor force shows down-- decreasing unemployment and the ratio of labor to capital and natural resources.⁶

Third, the government should increase progressive personal income taxes of 3 percent of GNP without hurting motivation of savings and investment, and decrease the concentrated regressive indirect taxes. Thus, the distribution of income after taxes can be improved to be less unequal than that of before taxes.

Fourth, Korea should reconsider the price program of rice. If the purpose of these below-cost sales of rice is to benefit lower income urban groups, this could be done much more efficiently by direct help to these people

rather than by lowering the price of rice to every one, when the middle-and the higher income households consume more rice. If the objective of this program is to encourage agricultural growth or help the smaller farmers owning less than 0.45 acre of the crop land, the government should consider cheaper ways than the present price program of the government's deficits of 300 billion won per year and a increase of money supply. Additional expenditure for agricultural research and expansion services seems to offer much greater yields than equivalent subsidy expenditures. Furthermore, a large fraction of the government budget devoted to the program can be used for agricultural development to improve income distribution in rural areas. Korea's economic growth diverts demand away from rice to other commodities and the prices of noncereal agricultural products rise. Measures to promote agricultural development and improve income distribution could be put more emphasis on the commodities than on rice.

Fifth, Korea should reform secondary school system, and expand the vocational and technical areas. The government should give an equal opportunity for higher schools to the students from the lower income families: 1) expansion of educational financing so that they can repay after employment; 2) expansion of scholarships for

lower income groups; and 3) expansion of college and high school correspondence courses to rural areas. Inequalities and discrimination in employment, wage and promotion through schooling should be minimized. To reduce the burden on the educational system and improve its performance, Korea should pursue policies that encourage greater reliance on job-related learning experiences for advancement;⁷ use successful work experience as a criterion for educational advancement; and link a training program with the labor market so that secondary school graduates can find employment.

Sixth, Korea should minimize government's intervention into the interest rates and exchange rates. Ultimately, the Monetary Board and the Central Bank should be independent of the government's control. Korea should stabilize prices to protect wage and lower income groups against high inflation, prevent real estate speculation, mobilize domestic savings, and promote exports.

Seventh, Korea should continue expanding exports. But, protectionism is growing all over the world, and newcomers in the world are producing at low cost. Korea should further develop high skilled labor-intensive, high technology, and upgraded textiles industries, thereby creating more employment opportunities. The great

Improvement of income distribution and sustained economic growth would result from combining policies to increase GNP, improve the distribution of income, and reduce⁸ population growth, rather than taken singly.

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INCOME DISTRIBUTION AND ECONOMIC GROWTH :

The Case of Korea

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B.A., DONGGUK UNIVERSITY, 1977

AN ABSTRACT OF A MASTER'S REPORT

Submitted in partial fulfillment of the
requirements for the degree

MASTER OF ARTS

Department of Economics

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1986

ABSTRACT

The examination of Korea's development experience between 1910 and 1962 has been done in order to further understand the initial conditions of rapid economic growth and income distribution. Korea had some relatively favorable conditions of human and physical capital at the start of the 1960s ; 1) land reform ; 2) the introduction of U.S-type education and an universal free, primary school system; and 3) the radical changes of capital after revolution by students in 1960 and the military in 1961 through the confiscation of illegally accumulated wealth, the deprivation of the large private shareholders of their stocks in main banks, and the settlement of rural usurious loans which exceeded 100 percent of interest rates per annum.

Some earlier studies on income distribution in Korea was made, but there are no reliable data because main households surveys themselves have some shortcomings. This paper suggests that Korea modify two prevailing surveys and get reliable data in order to further examine the movement of income distribution and to design adequate policies.

Based on the official data on income distribution, we call suggest the trend of income distribution comparatively over time between 1965 and 1980. Korea has achieved rapid economic growth , but income inequality has deteriorated. Through the comparison of the changes of income distributions between Korea and Taiwan, this paper confirms that there are some differences in the trend of income distribution between the two countries, which have some similarities before rapid economic growth, and export-led growth through labor intensive industries after the 1960s. This paper confirms that Taiwan has improved income distribution in the process of rapid economic growth. This paper also implies that it is very useful to study the differences between Korea's and Taiwan's policies.

The examination of Korea's policies has been done in order to look at the fact that Korea has pursued rapid economic growth without adequate income distribution policy between 1965 and 1980. Income inequality has deteriorated during the period, especially in the 1970s. This paper concludes that Korea's main policies be responsible, mainly for the greater income inequality.

It is more important to distribute the fruit of economic growth equally and widely to all the people, and

to support the lower income group to maintain basic needs. This paper suggests that income distribution policy center on growth-related policies together with some policies to reduce population growth. This means to design some policies so that income equality can be improved and economic growth sustained.