

# Growth and Trade in Korea: 1910-76

Wontack Hong\*

## A. Colonial Period (1910-45)

The main purpose of this paper is to provide a brief overview of growth and trade in Korea during 1910-76.

From the early twentieth century until 1945, Korea was under Japanese colonial rule. During the initial phase, Japan exploited Korea's traditional primary resources. Korea exported mainly rice and other primary products to Japan and imported all kinds of manufactures from Japan. In the latter years of the colonial period, Japan tried to convert the Korean peninsula into a logistical base for creation of the so-called Greater East Asian Coprosperity Sphere. As a result, development of some light and heavy industries as well as extended social overhead capital facilities was begun.

The per capita GNP of Korea is estimated to have been about \$ 80 in 1910-15 (in 1970 prices), around \$ 100 in 1921-30 and about \$ 140 in 1936-40.<sup>1)</sup> That is, the per capita GNP seems to have increased by approximately 80 percent during the colonial period implying an average annual growth rate of about 2 percent. Population also grew at approximately 2 percent per annum: in 1911 there were about 13.8 million Koreans and by 1940 there were about 23.0 million. In terms of gross output values, the share of agriculture in the total commodity sectors (agriculture, forestry, fishery, mining and manufacturing) declined from about 87 percent in 1911 to about 43 percent in 1940. On the other hand the share of manufacturing increased from about 4 percent in 1911 to about 39 percent in 1940. In terms of value added, the share of agriculture and forestry declined from around two-thirds of GNP in the early 1910's to about half in the late thirties while that of manufacturing increased from around 2 percent to around 13 to 15 percent of GNP.

\* Associate Professor, Seoul National University.

1) Korea's wholesale price indices from 1911 to 1970 were applied to the output (or trade) statistics for the colonial period in order to get the figures in 1970 prices and then the resulting estimates were converted to 1970 dollars at the exchange rate of 310.6 won per dollar. Data for colonial period were obtained from Government General of Chosen, *Choson Sotokufu Tokei Nenpo*, and *Table of Trade and Shipping*, and Oriental Economist Inc., *Foreign Trade of Japan: A Statistical Survey* (Tokyo, 1935).

Table 1. Industrial Structure of Korea in the Colonial Period

	1911	1921	1926	1932	1936	1940
<i>Value Added</i>						
Agriculture	62%	57%	56%	52%	45%	40%
Forestry	5%	4%	4%	4%	6%	6%
Fishing	1%	3%	3%	3%	4%	5%
Mining	1%	1%	1%	2%	4%	5%
Manufacturing	1%	5%	6%	8%	11%	15%
SOC & Service	(30%)	(30%)	(30%)	(30%)	(30%)	(30%)
<i>Employment (Data based on Census of Household by Occupation)</i>						
Agriculture & Forestry	—	90%	88%	86%	84%	81%
Fishing (Incl. Salt)	—	1%	1%	1%	1%	1%
Manufacturing	—	1%	2%	1%	2%	2%
Others	—	8%	9%	12%	13%	16%
Employment (Million) <sup>1</sup>	—	8.0	8.9	8.5	8.8	8.8
Population (Million) <sup>1</sup>	13.8	17.1	18.6	20.0	21.4	23.0
GNP (Million 1970\$)	1,082	1,634	1,946	2,471	3,169	3,383
Per Capita GNP (1970\$) <sup>2</sup>	\$77	\$94	\$102	\$120	\$144	\$143
Exports/GNP	5%	17%	23%	25%	29%	31% <sup>3</sup>
Imports/GNP	13%	18%	24%	26%	37%	43% <sup>3</sup>

Source: See the footnote in page 49.

Notes: 1. Excluding Japanese and foreigners.

2. Taking account of Japanese residents in Korea.

3. 1939 ratios.

According to the sectoral employment data based on a census of households by occupation, approximately 90 percent of the working population was engaged in agriculture in 1917. However, the proportion of employed persons in agriculture steadily declined to about 80 percent of total employed persons in 1940, while the share of employed persons in service sectors doubled from about 8 percent in 1917 to about 16 percent in 1940. The share of employed persons in manufacturing increased from about 1 percent in 1917 to about 2 percent in 1940. The total number of employed persons increased by only about 10 percent during 1921-40 while that of total population increased by about 35 percent. Therefore, the expansion of the non-agricultural sectors seems to have been achieved largely through sectoral shifts of workers rather than by an absolute increase in total employment.

Korea's commodity exports began to increase rapidly after the eighteenth-century. However, the annual commodity exports amounted to less than 10 million yen at the dawn of the twentieth century. During the last decade of the Yi dynasty (1901-10) prior to the formal annexation to Japan, the amount of exports almost doubled, to nearly 20 million yen in 1911, which seems to have been equivalent to approximately 5 percent of GNP in value terms. During the Japanese occupation, the volume of commodity exports almost tripled every ten years reaching about one billion yen in 1939 which is approximately one billion dollars in 1970 prices. The gross value of commodity exports was equivalent to between 5 and 10 percent of GNP during 1910-17, but it increased to between 17 and 21 percent during 1921-25 and to around 30 percent of GNP after 1934.

About 70 to 80 percent of Korea's commodity exports went to Japan proper during 1901-17 and this increased to around 90 percent after 1921.<sup>2)</sup> The rest of Korea's exports went mostly to China and other Asian countries. At the same time, more than two-thirds of Korea's total imports were from Japan proper during 1900-29, and they increased further to between 80 and 90 percent of Korea's imports during 1930-39.

The balance of payments was always in deficit in the period from 1886 to 1939, with the exception of 1924 and 1925. The deficit was financed by exports of gold and silver bullion and coins as well as by the net capital inflow. There were significant capital inflows from Japan from 1904 to 1914 (amounting to nearly half of the total import value), from 1917 to 1922

---

2) "Japan proper" represents Japan itself, Taiwan and the South Pacific colonial islands.

Table 2. Commodity Composition of Exports: 1910-35

	In Million Yen & Percent					
	1910	1915	1920	1925	1930	1935
Rice	6.3(32%)	24.5(49%)	77.0(39%)	173.2(51%)	109.7(41%)	244.7(44%)
Other Foodstuffs <sup>1</sup>	6.2(32%)	6.7(14%)	22.0(11%)	27.2(8%)	24.5(9%)	24.5(4%)
Crude Materials <sup>2</sup>	1.9(10%)	5.9(12%)	17.0(8%)	30.0(8%)	14.5(6%)	21.5(4%)
Fish, Fresh & Salted	0.3(2%)	0.9(2%)	12.4(6%)	14.1(4%)	11.8(4%)	12.4(2%)
Minerals <sup>3</sup>	1.4(8%)	2.2(5%)	6.9(3%)	5.1(2%)	5.8(2%)	16.7(3%)
Sea Weed & Fish Oil	0.1(1%)	0.4(1%)	1.4(1%)	4.3(1%)	5.6(2%)	9.3(2%)
Sugar	—(—)	—(—)	—(—)	4.5(1%)	4.8(2%)	3.2(1%)
Cotton Tissues	—(—)	—(—)	—(—)	1.3(0%)	2.7(1%)	4.7(1%)
Raw Silk	—(—)	0.1(0%)	2.5(1%)	27.1(8%)	23.9(9%)	19.9(4%)
Wood, Pulp & Paper	0.1(1%)	0.2(0%)	5.0(3%)	4.5(1%)	5.9(2%)	12.3(2%)
Ammonium Sulphate	—(—)	—(—)	0.6(0%)	—(—)	2.9(1%)	16.2(3%)
Cement	—(—)	—(—)	—(—)	0.4(0%)	1.8(1%)	3.7(1%)
Pig Iron	—(—)	—(—)	6.1(3%)	4.6(1%)	5.5(2%)	7.3(1%)
Copper & Lead	—(—)	—(—)	1.6(1%)	0.6(0%)	1.2(0%)	24.0(4%)
Rice Bran & Manure	0.4(2%)	0.9(2%)	2.6(1%)	5.5(2%)	6.8(3%)	16.9(3%)
Sub-Total	16.8(84%)	41.8(83%)	155.1(79%)	302.4(89%)	227.4(85%)	437.3(80%)
Manufactures	0.7(4%)	1.7(3%)	19.9(10%)	53.1(16%)	61.4(23%)	119.5(22%)
Total Exports	19.9(100%)	50.2(100%)	197.0(100%)	341.6(100%)	266.6(100%)	550.8(100%)

Notes: 1. Consists of beans, wheat, leaf tobacco, apples, chestnuts and ginseng.

2. Consists of cocoons, cotton, bulls, hide and furs.

3. Consists of iron & gold ore, coal and graphite.

(about 13 percent of total import value), from 1927 to 1930 (about 14 percent of total import value) and from 1935 to 1939 (about 20 percent of total import value).<sup>3)</sup> The net capital inflow in other years was insignificant.

Export goods during the colonial period may be classified into three groups: manufactured goods, rice and beans and other primary products. Between 1910 and 1939 about 50 to 60 percent of Korea's commodity exports consisted of rice and beans and, during 1910 and 1924, about 20 percent consisted of other primary products such as bulls, animal hides, fish, cotton, cocoons, iron ore, gold ore, coal, graphite, leaf tobacco, apples, chestnuts, ginseng and wheat. However, with a gradual expansion of the share of manufactures from less than 5 percent of total exports in the early 1910s' to more than 20 percent after 1929, the share of other primary products declined to around the 10 percent level after 1926.<sup>4)</sup> Raw silk was the single most important manufactured export during 1921-33. Other exports included rice bran, wood, pig iron, cotton tissues, sea weed, pulp and paper and sugar. In the thirties, exports of ammonium sulphate, cement, copper, lead, fish oil, wheat flour and leather were significant. However, since raw silk as well as rice bran, wood, sea weed, fish oil and leather are almost primary products, one can say that Korea remained essentially an exporter of primary goods during the colonial period.

Being a Japanese colony, the growth of the textile industry was relatively slow and nearly one-third of Korea's imports during 1910-39 consisted of various textile products. Machinery and equipment took lead, than 5 percent of total imports. Steel and metal products, various chemical products, paper and wood products took about 20 percent of total imports, and imports of food products (such as fishery products, wheat flour, confectionaries, soy, milk, sugar and beverages) amounted to nearly 10 percent. Furthermore, agricultural products (such as barley, wheat, millet, corn, beans, vegetables, fruit and tobacco) took about 10 to 20 percent of total imports during 1919-39. However, except for coal and salt, imports of minerals were negligible.

The most remarkable fact seems to have been that exports of rice (almost entirely to Japan) amounted to about 13 percent of total rice production in Korea during 1915-19, about 22 percent during 1920-24 and about 40 percent

---

3) However, except for the periods 1904-14 and 1933-35, the net capital inflow from Japan was mostly through the so-called "foreign countries" which implies China and Manchukuo. During 1918-28, there was a significant net capital inflow into Japan from Korea, which was offset by a net capital inflow into Korea from Manchukuo, China, etc.

4) Exports of manufactures from Korea included re-exports of Japanese-made products which seem to have amounted around 5 percent of total manufactures exports.

Table 3. Commodity Composition of Imports: 1910-35

In Million Yen &amp; Percent

	1910	1915	1920	1925	1930	1935
Agricultural Products <sup>1</sup>	0.5 (2%)	2.0 (4%)	30.5 (11%)	63.6 (19%)	43.5 (12%)	58.3(9%)
Cotton & Rubber	0.4 (1%)	0.7 (1%)	1.3 (3%)	3.9 (1%)	7.0 (2%)	22.2(4%)
Coal & Salt	1.2 (3%)	2.7 (5%)	18.4 (8%)	10.3 (3%)	11.5 (3%)	17.3(2%)
Food Products <sup>2</sup>	2.8 (8%)	7.3(13%)	21.0 (9%)	32.7 (10%)	37.8 (11%)	58.2(9%)
Cotton Yarn & Thread	1.8 (5%)	2.6 (4%)	4.3 (2%)	10.8 (3%)	8.1 (2%)	14.3(2%)
Textile Fabrics	9.1(23%)	11.7(20%)	35.7(15%)	69.6(20%)	44.3(12%)	47.1(7%)
Textile Products	0.9 (2%)	5.2 (8%)	15.3 (7%)	36.2(11%)	45.9(12%)	101.7(15%)
Wood & Paper Products	1.9 (5%)	3.1 (6%)	8.6 (4%)	16.5 (5%)	14.7 (4%)	29.8(5%)
Chemicals	0.8 (2%)	1.3 (2%)	3.5 (1%)	5.2 (1%)	6.6 (2%)	12.8(2%)
Chemical Fertilizer	— (—)	— (—)	— (—)	3.0 (1%)	6.7 (2%)	14.3(2%)
Petroleum Products	1.3 (3%)	1.8 (3%)	8.9 (4%)	8.7 (3%)	11.0(3%)	26.1(4%)
Nonmetallic Minerals <sup>3</sup>	0.7 (2%)	1.3 (2%)	3.8 (2%)	4.7 (2%)	5.9 (2%)	12.1(2%)
Iron & Steel	1.0 (3%)	2.1 (4%)	9.6 (4%)	7.4 (2%)	16.1(4%)	42.4(6%)
Metal Products	0.2 (1%)	0.5 (1%)	1.6 (1%)	2.5 (1%)	4.3 (1%)	7.9(1%)
Machinery	0.4 (1%)	0.8 (2%)	3.7 (2%)	2.9 (1%)	6.0 (2%)	13.0(2%)
Transport Equip.	— (—)	0.3 (1%)	2.9 (1%)	3.2 (1%)	6.4 (2%)	18.5(3%)
Misc. Manufactures	0.4 (1%)	1.4 (2%)	7.7 (3%)	15.4(4%)	24.6(6%)	30.5(5%)
Sub-Total	23.4(59%)	44.8(75%)	176.8(71%)	303.1(89%)	300.4(82%)	526.5(80%)
Manufactures	21.5(54%)	39.4(66%)	126.6(51%)	225.3(66%)	238.4(65%)	428.7(65%)
Total Imports	39.8(100%)	59.7 (100%)	249.3(100%)	340.1(100%)	357.0(100%)	659.4(100%)

Notes: 1. Consist of rice, barley, wheat, millet, corn, bean, vegetable, fruit and tobacco.

2. Consists of fishery products, wheat flours, confectioneries, soy, milk, sugar and beverages.

3. Consist of cement, glass, and porcelain.

of total output during 1925-39. As a result, although the production of rice in Korea increased by nearly 50 percent between 1915 and 1940, the per capita domestic consumption of rice decreased.

The increased gross domestic demand for grain was satisfied by imports of low grade millet and beans from China. Therefore, one can justifiably conclude that Korea was intended to serve mainly as a colonial supplier of rice to Japan. Only at the end of the Japanese occupation did investment occur in some light and heavy industries as well as in electricity, transportation and communication facilities.

According to the household occupation census data, the total number of employed persons in manufacturing (including Japanese) was about 164 thousand in 1926 and 209 thousand in 1939. However, according to the factory employment data, the total number of persons employed in manufacturing was only 81 thousand in 1926 and the number increased rapidly to about 262 thousand in 1939. This latter set of employment data seems to be more consistent with manufacturing output data. That is, both employment and gross output tripled between 1926 and 1939 in manufacturing and a constant labor-output ratio of 0.19 was maintained (persons per thousand 1970 dollars of output).<sup>5)</sup>

Among the manufacturing sectors, the machinery, chemicals, steel and metal product industries increased most rapidly in the period 1926-39, while food, textile and nonmetallic mineral product industries expanded below the average rate for manufacturing as a whole. In 1939, about 27 percent of total manufacturing output consisted of food, beverages and tobacco while about 19 percent was textile fibres, fabrics and textile products. Chemicals, fertilizer, coal products, rubber products and paper products made up about 28 percent and about 13 percent was metal products and machinery. About two-thirds of the food and kindred products and about four fifths of the textiles were produced in the south of Korea while about three-quarters of the paper products, chemicals and nonmetallic minerals as well as almost all basic chemicals, chemical fertilizers, iron and steel were produced in the north in 1939. Printing and publishing, wood products, furniture, leather products, rubber products, machinery and transport equipment were mostly produced in South Korea.

5) The fact that the estimated labor-output ratio for manufacturing in 1939 was only 0.19 while that in 1960 was 0.38 seems to indicate a very low net value added in manufacturing during colonial period. This may also imply that the application of the 1960 ratio of net-value-added/gross output to pre-1940 manufacturing output data might have exaggerated the estimated share of manufactures in GNP. See Tables 3.1 and 2.4.

Table 4. Employment and Gross Output Value of Manufacturing Sectors: 1926 and 1939

	1926			1939			(B/A)
	Output(A) (In Million 1970 Dollars)	Labor (In Thousand Persons)	Labor- Output Ratios	Output(B) (In Million 1970 Dollars)	Labor (In Thousand Persons)	Labor- Output Ratios	
Food & Kindred	192.0(45%)	27.0(33%)	0.14	380.2(27%)	49.4(19%)	0.13	2.0
Textiles & Products	116.0(27%)	17.4(21%)	0.15	249.3(18%)	57.8(22%)	0.23	2.2
Misc. Manufactures	49.8(12%)	14.3(18%)	0.29	153.9(11%)	64.8(25%)	0.42	3.1
Chemicals	27.6(6%)	2.4(3%)	0.09	359.1(26%)	27.3(10%)	0.08	13.0
Nonmetallic Mineral	21.7(5%)	7.4(9%)	0.34	41.8(3%)	15.4(6%)	0.37	1.9
Steel & Metal Products	16.2(4%)	11.7(14%)	0.72	136.4(10%)	18.8(7%)	0.14	8.4
Machinery	4.4(1%)	1.0(1%)	0.23	67.0(5%)	28.6(11%)	0.43	15.2
Total	427.7(100%)	81.1(100%)	0.19	1,387.8(100%)	262.0(100%)	0.19	3.2

Source: Government General of Chosen, *Chosen Sotokufu Tokei Nenpo* (various issues).

Note: Excluding electricity, gas, charcoal manufacturing and sawing. Including Japanese and foreigners.

However, the quantity of machinery and transport equipment produced in the thirties was not only small in absolute terms (less than 4 percent of total gross manufactures output value) but was also not very sophisticated.

Heavy industries, electrical power resources and mineral deposits were mostly located in the northern part of Korea. The industries in the south were mainly manufacturers of agriculture and light consumption goods. The Korean economy, which was initially designed as a colonial economy dependent on Japan and was then further crippled by the separation of the North from the South, had to industrialize out of the ruins left in the wake of the Korean War (1950-53).<sup>6)</sup>

### B. Post Korean War Era(1953-76)

The years between 1953 and 1976 fall into two distinct phases of growth. During the initial phase—the decrease following the end of Korean War—Korea pursued inward-looking policies and experienced a fairly unimpressive growth performance. Reconstruction, after the devastation of the Korean War, was not achieved until the end of the fifties. The economy in the fifties possessed all the familiar characteristics of extremely underdeveloped countries. The next phase of growth, from 1962 until 1976, included the First, Second and Third Five Year Plan periods. During this phase the economy expanded rapidly by following aggressive outward-looking policies. A good foundation for industrial modernization had been established by the end of the Third Five Year Plan.

In 1953, which was the year the Korean War ended in a ceasefire, the gross national product amounted to about \$2.7 billion and per capita GNP was about \$130 in 1970 dollar prices.<sup>7)</sup> About 46 percent of GNP was generated by the agricultural sector and about 43 percent by such service sectors as construction, wholesale and retail trade, public administration and defence, ownership of dwellings and education. The manufacturing sector contributed

6) In 1940, about 15 percent of total employed persons in manufacturing were Japanese who worked mostly in technical and administrative positions.

7) In this paper, we applied the exchange rate of 310.6 won per dollar in order to convert the (national income) figures in constant 1970 won values into 1970 dollar values. We applied the U.S. wholesale price index in converting the trade figures in current dollar values during 1953-62 into those of 1970 constant dollar values, and applied the export or import unit value index constructed by the Bank of Korea to the trade data of 1963-76. This and following sections were mostly excerpted from my *Factor Supply and Factor Intensity of Trade in Korea* (Seoul:KDI Press, 1976). The data were updated and revised, however. Notable differences are that we used trade statistics obtained from the I-O table in this paper instead of those from the Office of Customs Administration and we also used a revised set of sectoral capital and labor coefficients.

Table 5. Growth and Changes in the Industrial Structure: 1953-76

	1953	1957	1962	1967	1972	1976
Agriculture & Forestry	46%	42%	39%	32%	23%	17%
Fishery	2%	2%	2%	2%	2%	3%
Mining & Quarrying	1%	1%	2%	1%	1%	1%
Manufacturing	6%	9%	12%	17%	25%	35%
Electricity, Water & Sanitation	0%	0%	1%	1%	2%	2%
Transportation & Communications	2%	2%	3%	5%	6%	7%
Construction	2%	2%	3%	4%	5%	5%
Wholesale & Retail Trade	11%	13%	15%	15%	18%	17%
Banking & Other Services	8%	8%	9%	8%	8%	6%
Education & Public Administration	17%	14%	12%	10%	8%	5%
Ownership of Dwellings	5%	4%	4%	3%	2%	2%
GNP(In Billion 1970 Dollars)	2.7	3.3	3.9	6.0	9.7	15.3
Per Capita GNP (In 1970 Dollars)	129	143	148	198	291	427
Commodity Exports/GNP	1%	1%	2%	7%	18%	32%
Commodity Imports/GNP	10%	11%	16%	21%	25%	34%
	(In Billion Current Dollars)					
Commodity Imports	0.35	0.44	0.42	1.00	2.52	8.77
Service Imports <sup>1</sup>	0.01	0.01	0.03	0.08	0.19	0.96
Commodity Exports	0.04	0.02	0.06	0.32	1.62	7.72
Service Exports <sup>1</sup>	0.12	0.04	0.10	0.30	0.49	1.50
Official Aid <sup>2</sup>	0.19	0.37	0.22	0.15	0.07	0.03
Foreign Loans	—	—	0.00	0.17	0.63	0.90

Source: The Bank of Korea, *National Income in Korea* and  
*Economic Statistics Yearbook*.

Notes: 1. Total invisible payments or receipts minus investment income and donations.

2. Including imports financed by properties and claims funds from Japan.

only about 6 percent of GNP and the social overhead sectors such as electricity, water and sanitary services, transportation and communications contributed about 2 percent. According to the national income statistics, the commodity-exports/GNP ratio amounted to less than 1 percent while the commodity-imports/GNP ratio was about 10 percent, and the difference was financed by foreign savings.

The average annual growth rate of GNP during the nine year period following the war (1953-61) was approximately 4 percent and, in 1962, the agricultural and service sectors together still contributed about 83 percent of

the GNP. Nearly two-thirds of the working population were engaged in agriculture in 1963. Commodity exports remained negligible throughout the period, usually amounting to less than 1 percent of GNP, while commodity imports, which amounted to more than 10 percent of GNP on the average, were mostly financed by U.S. grants-in aid. Persistently overvalued domestic currency effectively thwarted the export potential of the Korean economy. The industrial policy pursued during this post-war period may be loosely characterized as a policy of import substitution of non-durable consumer and intermediate goods behind a protective wall of tariffs and quotas. However, any kind of whole-hearted and systematic government effort toward rapid economic growth was conspicuously absent.

The military coup in mid-1961 provided a turning point. After that the military government began systematic efforts to achieve rapid economic growth, and the vigor of its efforts was maintained by the formulation and energetic execution of a series of five-year economic development plans. The average annual growth rate of GNP rose to about 8 percent during 1962-66 and to 10 percent during 1967-71. Even with the oil crisis, Korea was able to maintain about an 11 percent average annual GNP growth rate during 1972-76.

The initiation of the ambitious First Five-Year Plan (1962-66) amplified the needs for foreign exchange and domestic savings. The inflow of U.S. aid, which peaked in 1957 at nearly \$0.4 billion, had already started its irreversible decline. As a result, the government had to turn to such alternative sources of foreign exchange as foreign loans and export expansion, along with increased taxation and higher interest rates on time and savings deposits to mobilize domestic savings.

The annual inflow of foreign loans increased from a negligible amount before 1962 to nearly \$0.2 billion in 1967 and to as high as \$0.9 billion in 1976. The government's direct and indirect tax revenue, which amounted to less than \$0.4 billion before 1962, increased to about \$0.7 billion in 1967 and to about \$1.3 billion by 1972 (all in 1970 prices). The interest rates on time and savings deposits and loans (except export credits) almost doubled in 1965, and as a result the share of time and savings deposits in the rapidly expanding total loan funds of the deposit money banks increased from less than 20 percent before 1965 to nearly half in 1971.<sup>8)</sup>

The government was able to achieve particularly dramatic gains in the

---

8) Data from the Bank of Korea, *National Income in Korea and Monetary Statistics of Korea:1960-73*.

area of export expansion. Commodity exports (in current dollar prices) increased at an average annual rate of about 40 percent during the period 1962-71, amounting to \$0.3 billion in 1967 and \$1.0 billion in 1971. By taking advantage of the repeated yen appreciations, which amounted to 25 percent between December 18, 1971 and March 1973, Korea further expanded its exports by about 50 percent in 1972 and 100 percent in 1973. These exports were mostly to Japan and to other markets where Korean goods were in competition with Japanese goods. Total commodity exports amounted to nearly \$8 billion in 1976.

During 1953-61, non-commodity exports, which amounted to more than twice the value of commodity exports, were dominated by sales of goods and services to the U.S. Army detachments stationed in Korea, under offshore procurement arrangements. Annual sales to the U.S. Army increased steadily from less than \$0.1 billion during 1953-61 to more than \$0.2 billion after 1967, but their magnitude started to decline after 1973. On the other hand, receipts from exports of transportation, construction, insurance, travel and miscellaneous services increased very rapidly from almost negligible amounts during 1953-61 to \$0.25 billion in 1972. By 1976, these receipts from invisible trade exceeded \$1.5 billion while sales to the U.S. Army amounted to less than \$0.2 billion. The rapid expansion in the tonnage of domestic vessels, tourist services, remittances from Korean workers abroad and revenues from overseas construction projects made the greatest contribution to this remarkable increase in non-commodity exports.

Until the early sixties, the major export items were such primary products as metal ores and concentrates, raw materials of vegetable or animal origin, fish, swine and raw silk. By the mid-sixties, however, plywood, clothing and miscellaneous manufactures emerged as the principal export commodities. In 1973, electronic products, footwear, iron or steel plates and sheets and woven synthetic fabrics joined the list of major export commodities.<sup>9)</sup>

Machinery and transport equipment made up roughly 10 to 15 percent of total imports during 1953-61, but their share steadily increased to nearly a

9) In 1961, for example, the only manufactured goods which could be exported in sizable quantities were raw silk, plywood and cotton fabrics. By the early seventies, however, Korea could list as important export commodities such diversified items as: clothes, thermionic valves and tubes, elements of semi-conductors, integrated circuits, diodes, transistors, footwear, cotton yarn, synthetic fibre yarn, iron & steel plates, twine & ropes, synthetic fibre fabrics, silk fabrics, leather products, knitted fabrics, cement, TV sets, tape recorders, radio receivers, toys, trunks and suitcases.

third of total imports during 1962-71. Progress in import substitution and shifts in the demand pattern resulted in significant changes in the list of major manufactured imports. During the period 1953-61, large quantities of chemical fertilizer, synthetic fibre yarns and thread, yarn of regenerated fibres, petroleum products, printing paper, cement, iron or steel plates and plastic materials were imported. By 1971, however, the progress in import substitution had eliminated all these items except synthetic fibre yarn and thread as well as plastic materials from the list of major import commodities. To give a specific example, remarkable progress in import substitution for fertilizers and refined petroleum resulted in a sharp decrease in the share of chemicals in total commodity imports from more than 20 percent in 1962 to less than 10 percent in 1973. We can also observe the emergence of a new generation of manufactured imports such as woven synthetic fabrics, iron and steel coils, thermionic valves and tubes, transistors, elements of semi-conductors, chemical pulp and synthetic fibres which are mostly used as raw materials for export production.

The major imported materials directly used as intermediate inputs for export production were basic chemicals and other chemical products, forestry products (timber), steel products, textile fibres, fabrics, miscellaneous textile products, various agricultural products and electronic products. The share of imports for exports in total commodity imports increased steadily from about 14 percent in 1966 to about 33 percent in 1976. Their import value was equivalent to about 40 to 50 percent of the total value of commodity exports during 1966-76. This implies that the apparent domestic value added content of exports was less than 60 percent, although the actual direct import content of exports might have been overestimated due to the official wastage allowances which leaked out large amounts of duty-free imported raw materials to the domestic market.<sup>10)</sup>

Throughout the period 1953-76, around 80 percent of Korea's total trade was conducted with developed countries, mostly with the U.S. and Japan. Between 1967 and 1973 about 70 percent of Korea's total trade was conducted with the U.S. and Japan and about 13 percent with other developed countries. The share of developing countries in total trade was less than 20 percent

10) A remarkable fact is that about half of the imported materials for export production were those items classified by the Bank of Korea as "competitive" imports. This perhaps overlooks some intrinsic (quality) differences between the competitively imported products and the so-called "competing" domestic products. However, it still suggests the existence of large potential increases in the value added content of total commodity exports.

during 1967-73. Imports from developing countries were mostly crude oil, crude rubber and timber. Since 1974 the U.S. and Japanese share has declined to the 50 percent level while exports to Europe and imports from the Middle East have significantly increased. Despite this change Korea still has very little to other developing countries and *vice versa*, with the exception of natural-resource intensive goods.

Although Korea began to intensify its promotion of import substitution in the early sixties, because of its balance of payments problem in financing various investment projects it also had to promote export expansion. The export subsidy policies were not purposely designed to discriminate among industries. However, due to the limited export potential of the primary sector, the share of manufactured products in total commodity exports, which never exceeded the 20 percent level before 1961, steadily increased to about 80 percent in 1966 and to more than 90 percent of total commodity exports by 1973.<sup>11)</sup> As one of the most densely populated countries in the world, Korea possessed a strong potential for the production of labor-intensive manufactures for export, and this latent potential has been effectively exploited by positive government policies. Export promotion policies gathered momentum as time passed, and as a result people began to identify the period after 1962 as the export-oriented-growth phase in Korea's development. However, Korea has also achieved a very significant level of import substitution in such items as cement, fertilizer, refined petroleum, textile yarn and fabrics during this period, which in due course started to emerge as a new generation of exportables. Import substitution and export expansion may proceed together, possibly with some time lags.

In 1976, the modernized manufacturing sector contributed about 35 percent of the GNP while the social overhead sectors contributed nearly 10 percent. The once dominant agricultural sector declined to a mere 17 percent of GNP, and even the share of the service sectors was reduced to about 35 percent from 43 percent in 1962. The share of agricultural employment fell to 42 percent in 1976. The Fourth Five Year Plan(1977-81) aims to expand the share of manufacturing in GNP to about 40 percent and that of SOC sectors to 12 percent by 1981. According to the Plan, in 1981 about 50 percent of total manufacturing output and exports will consist of so-called heavy and chemical products.

---

11) The First Five-Year Plan (1962-66) established a 33 percent target for the share of manufactured goods in total commodity exports (\$138 million) by 1966.

Having enjoyed positive results from an export-oriented growth strategy such as expanded market size, improved skills, technological transfers and the over-all increase in efficiency resulting from international competition, it does not seem likely that Korea will abruptly reverse its "outward-looking" industrialization policy in the near future. Commodity exports are planned to increase at an average annual rate of 16 percent during 1977-81, although the target for exports (\$14.2 billion in 1975 prices) is regarded as somewhat conservative. In achieving this aggregate commodity export target, the composition of exports is expected to shift towards heavy and chemical products in accordance with expected changes in Korea's comparative advantage.

Considering employment effects, expansion of the traditional mainstay of Korea's exports, the so-called simple labor-intensive manufactures such as textiles, wearing apparel, plywood and other sundry goods, will probably require continuous support. However, an ever-increasing number of countries are introducing protectionist policies against such exports. There is also more competition among developing countries. Moreover, Korea is experiencing a rapidly rising wage level which is the result of its successful growth. Consequently, skill intensive and moderately capital intensive industries such as manufactures of electrical and non-electrical machinery, electronics, ships, other transport equipment, steel products and finished metal products should receive concentrated support from the government during 1977-81. In order to promote export of these products, the government should also emphasize the diversification of markets to underdeveloped countries in Asia, Latin America and Africa.

The "Internationalization" of the Korean economy is expected to have progressed even further by 1981: the commodity-exports/GNP ratio is projected to be about 42 percent and the service-exports/GNP ratio about 10 percent with similar ratios projected for imports.