

Export Plan and Actual Export Performance in Korea

By Wontack Hong*

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I. Introduction

We aim to investigate the export plans of Korea as included in the series of Five-Year Economic Development Plans (1962-76) and make comparison with the actual export performance in order to examine the role of plan in export-oriented growth of Korean economy.⁽¹⁾

Section 2 provides a brief sketch of Korean economy during the period 1953-77, identifying the main sources of economic expansion. Section 3 describes economic development plans and economic policies in general identifying the principal objectives of government policies. Section 4 investigates export plans and actual export performance of Korea acknowledging the fact that an unusually rapid expansion of exports has provided an important impetus to growth in Korea. The last section gives some concluding remarks.

II. Growth and Trade in Korea

The years between 1953 and 1977 fall into two distinct phases of growth. During the initial phase—the decade following the end of Korean War—Korea pursued inward-looking policies and experienced a fairly unimpressive grow-

* The author is Associate Professor of International Economics, Seoul National University.

(1) The statistical data presented in this paper were mostly derived from my *Trade, Distortion and Employment Growth in Korea*, Korea Development Institute, 1977 (mimeographed).

th 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 1977, included the First, Second and Third Five-Year Plan periods. During this phase the economy expanded rapidly by following aggressive outward-looking policies: per capita GNP in 1977 dollars rose from about \$275 to about \$864, for an average annual growth rate of nearly 8 percent. Government investment and credit policies were concentrated on export promotion. A good foundation for industrial modernization seems to have been established by the end of the Third Five-Year Plan.

The total net fixed capital stock in Korea, excluding the household wealth in the form of dwellings, increased at an average annual rate of 3.5 percent during 1953-61, at 6.7 percent during 1962-66, and at a remarkable 13.0 percent during 1967-76. The net fixed capital stock for all industries amounted to about \$40 billion in 1976. On the other hand, the total number of employed persons increased at an average annual rate of nearly 4 percent during 1963-76, that is, from about 7.7 million in 1963 to 12.6 million persons in 1976.

Per capita capital stock increased by about 30 percent during the fourteen year period from 1953 to 1966, and it was only after 1966 that it began to increase rapidly. Per capita capital stock increased by nearly 170 percent during 1966-76, but due to the rapidly increasing employment the fixed capital stock per employed person increased only by about 120 percent.⁽²⁾ However, this still implies that a significant overall capital deepening occurred in Korea during 1966-76.

The annual wage rate for farm employees started to rise significantly after 1967 (from about \$400 in 1967 to \$900 in 1976 in 1976 prices), as did the wage rate for employees in the manufacturing sector (from about \$800 in 1967 to about \$1,400 in 1975). On the other hand, the weighted average real interest rates on all types of loans supplied by both banking institutions

(2) According to the Manufacturing Census data, the per worker capital stock in manufacturing increased from \$1.8 thousand per worker in 1966, to \$2.4 thousand in 1971 and to \$3.0 thousand in 1975. According to the Farm Household Survey data, capital stock per man-year input in agriculture was estimated at about \$0.24 thousand before 1967 but increased to \$0.56 thousand in 1973.

and curb markets reached their peak in 1967 and then declined steadily and substantially thereafter. Hence, we can conclude that since 1967 there has been rapid and significant capital accumulation and capital deepening in Korea which was accompanied by a fast rising wage-rental ratio.

Korea's annual commodity exports, which amounted to less than \$0.1 billion before 1962, increased at an average annual rate of about 35 percent (in 1970 constant prices) during 1962-77, and the ratio of gross commodity exports to GNP increased from about 2 to 30 percent. In 1977 about 35 percent of GNP originated in manufacturing, and manufactured products made up about 90 percent of the total commodity exports. Nearly one third of the total workers in manufacturing were employed for export production since 1973. Total commodity exports amounted to about \$10 billion in 1977.

According to the trade statistics in BOK's input-output tables, commodity exports increased about 35 times (in 1970 constant prices) while the estimated number of persons employed directly and indirectly in export production increased about 8.5 times (from 0.15 million to 1.24 million) during 1963-75. This implies average annual growth rates of about 35 percent and 20 percent, respectively, and an export expansion elasticity of employment of about 0.6. The fixed capital stock directly and indirectly employed for export production increased about 37-fold (from \$0.10 billion to \$3.90 billion) during 1963-75 implying an average annual growth rate of 35 percent and an export expansion elasticity of capital absorption of about 1.0.

It appears that while exports were significantly more labor-intensive than competitive imports in the mid-sixties, capital intensity of exports and (competitive) import substitution became approximately equal since the late sixties.⁽³⁾

While we can observe a significant increase in the capital intensity of

(3) The capital intensity of Korea's non-competitive non-natural-resource-intensive imports, estimated by using the U.S. and Japanese sectoral factor coefficients, was much higher than that of either exports or competitive imports. Therefore, Korea's trade appears to have been consistent with the comparative advantage doctrine of Heckscher-Ohlin especially with respect to exports versus non-competitive non-natural-resource-intensive imports and exports versus non-competitive natural-resource-intensive imports (such as crude oil, timber, raw cotton, rawsugar, crude rubber and wool.) That is, the major difference between factor intensities is reflected not between exports and competitive imports but between both these categories and non-competitive imports.

Korea's commodity exports due to shifts in export composition during the period 1960-75, there were much more significant changes due to factor substitution in the production processes. Some of the sectoral capital-labor substitutions, as well as shifts in export composition, may be attributed to the increase in per capita capital stock in Korea and the associated rise in the wage-rental ratio. However, a substantial portion of the factor substitutions should be attributed to the subsidy on capital use.

A notable fact seems to be that the capital intensity of Korea's exports was much lower than that of the manufacturing sector as a whole in the sixties, but the difference between the two has become smaller thereafter and in 1975 the former became higher than the latter. This might imply that factor market distortions caused by the export promotion policy were significantly stronger than those caused by the general industrialization policy characterized by extensive subsidized capital financing.

III. Economic Development Plans and Economic Policies

In 1954, Robert R. Nathan and Associates prepared a reconstruction plan for the UNKRA. But the Nathan Report, which envisioned a self-sufficient economy exporting large amounts of rice and minerals *à la* colonial Korea, was simply ignored by the government. The Three-Year Economic Development Plan (1960-62) of the Ministry of Reconstruction emphasized investment in SOC sectors and self-sufficiency in food production and other basic necessities. This was to be achieved through the promotion of agriculture, small and medium sized industries, and selected key industries. The proposed investment program emphasized increasing capital goods production (that is, chemicals, metals, machinery etc.), and discouraged excessive growth in consumption goods industries in order to achieve a balanced industrial structure. However, due to the student revolution in 1960, the plan did not have a chance to be implemented.

In the fifties, the main concerns of the Korean government were reconstruction and the maintenance of minimum consumption standards. Consequently, there was no systematic effort to achieve long-term economic development.

Although there were several export promotion schemes, the exchange rate

remained overvalued, and the emphasis lay on import-substitution in such basic necessities as flour milling, sugar refining, and textile manufacturing. The import substitution policy was financed by aid funds and included protective tariffs, quotas, and a multiple exchange rate system. In the fifties, the amount of U.S. aid was determined more or less by the estimated need for investment and basic consumption. However, additional foreign exchange earnings and domestic savings were expected to be matched by a reduction in aid which, in effect, eliminated any strong incentive on the part of the Korean government to expand exports or domestic savings. As a result, although there was some progress in reducing the budget deficit and curbing inflation in the late fifties, no major evolution in economic policies occurred.⁽⁴⁾

With the beginning of the sixties, the major concern of the government shifted from reconstruction and the maintenance of minimum consumption standards to long-run economic growth. We may quote Cole and Lyman.⁽⁵⁾

.....policy objectives, and the changes that took place in them, were intimately related to time horizons... It was only as the immediate problems became less serious and the prospects for survival improved, as they did in the latter part of the 1950s, that the time perspective became more extended and the people attached increasing importance to the future in relation to the present. Part of the failure of the Rhee government was that it did not adjust to this extension of the time horizon, whereas the military and successor governments,... responded to, and stimulated, popular expectations as to the future.....

The First Five-Year Economic Development Plan (FFYEDP) stated that the ultimate course for Korean economy is industrialization through modernization of industries and considered the first plan period (1962-1966) as a preparation stage for such an ultimate course.⁽⁶⁾ The major objectives were set as follows: (1) attaining self-sufficiency in the production of food, (2) expansion of key industries, electricity and transportation, (3) increased employment (4) improvement of balance of payments through export expansion, and (5) maximal mobilization of domestic resources and increased foreign capital inflow. Production of coal, cement, fertilizer, steel ingot and

(4) and (5) D. C. Cole and P. N. Lyman, *Korean Development* (Cambridge: Harvard University Press, 1971), pp.167-8.

(6) The Government of Korea, *First Five-Year Economic Development Plan (1962-66)*, (in Korean), January 1962, p. 16.

refined petroleum were listed as the key industries to be promoted for import substitution. However, the plan did not emphasize a completely self-sufficient industrial structure and accepted the idea of financing imports with increased exports. The major emphasis in trade policies were laid on expanded production of import-substitute goods, especially the agricultural products such as rice and barley, restricted imports of consumer goods, and export promotion through increased payments of export bonus, expanded short-term export financing and income tax exemption on export activities. Faced with serious crop failures in 1962 and 1963, the military government was willing to rely on expansionary monetary policies. When the inflationary financing threatened harmful effects on resource allocation, intensive efforts were made to increase domestic savings by raising tax revenue and by increasing the interest rates on time and savings deposits.

The First Five-Year Plan did not present a well-worked-out set of economic policies, and even appeared misguided in view of the poor performance during the first year of the plan and the subsequent inflation. Nevertheless, it did suggest a number of new policies which were subsequently followed and which later provided the real impetus for Korea's rapid growth. These included the encouragement of exports and domestic savings, and the maintenance of realistic, market-oriented interest and exchange rates. It is difficult to assess the importance of these suggestions in bringing about the actual implementation of policy. However, it can at least be said that the tendencies expressed in the Plan were not opposed to the policy directions which were eventually followed.⁽⁷⁾

The basic objectives of the Second Five-Year Plan (1967-1971) were to modernize industrial structure by promoting chemical, steel and machine industries; to build the foundation for a self-supporting economy by increasing domestic saving and by promoting exports of labor-intensive consumer goods and import-substitution of foods and capital goods; and to expand employment to absorb disguised unemployment in agricultural sector. Industrialization through export expansion was taken as the unavoidable course of growth for Korean economy. Manufacturing of steel, refined petroleum, aluminum, fertilizer, soda-ash, cement, motor, automobile and ships were

(7) D.C. Cole and P. N. Lyman, *op. cit.*, p. 218.

listed as key industries for expansion during the plan period.⁽⁸⁾

It is remarkable that it was during the Second Five-Year Plan period of unprecedented expansion for labor-intensive light manufacturing goods exports, that the government established a legal foundation to promote the so-called heavy and chemical industries. The government introduced the Machine Industry Promotion Law and the Shipbuilding Industry Promotion Law in 1967, the Electronics Industry Promotion Law in 1969, and the Steel Industry Promotion Law and Petro-Chemical Industry Promotion Law in 1970. Each of these laws specified various tax-cum-financial supports for their respective industries. However, these promotion schemes were not properly implemented until the beginning of the Third Five-Year Plan period.

The basic objectives of the Third Five-Year Plan (1972-76) were to develop agricultural sector, to improve balance of payments through export expansion and to promote heavy and chemical industries. Essentially, all the Five-Year Plans have emphasized domestic savings, export promotion, investment in SOC sectors, selective import substitution of intermediate and capital goods, and self-sufficiency in major food grains. Perhaps the most notable aspect of the Third Five-Year Plan was the emphasis on heavy and chemical industries.⁽⁹⁾ Iron and steel, copper, lead, zinc, cement, sheet glass, pulp, working machine, construction machine, farm machine, electrical machine, automobile, shipbuilding, electronics, synthetic rubber, fertilizer and petro-chemical industries were listed as the key industries. The Plans were annually revised through the Overall Resources Budget (ORB) on the basis of actual performance and updated forecasts. One major revision of the Second Five-Year Plan was to expand investments in the power and transportation sectors to accommodate rapid overall growth. The annual revision conducted by the ORB primarily concerned the numerical targets for investment, output, and exports. Consequently, little revision has been made in development priorities.

The basic objectives of the Fourth Five-Year Plan (1977-81) were to

(8) The Government of Korea, *Second Five-Year Economic Development Plan (1967-71)*, (in Korean), July 1966, pp. 27-31.

(9) The Government of Korea, *Third Five-Year Economic Development Plan (1972-76)*, (in Korean), February 1971, p. 2.

achieve a complete self-reliance in investment financing, to achieve a current account surplus, and to shift industrial structure towards so-called heavy and chemical industries as understood of consisting of steel products, finished metal products, electronics, electrical and non-electrical machinery, shipbuilding and other transport equipment manufacturing. These goals were believed to be essential to build an economic structure for self-sustaining growth.⁽¹⁰⁾

IV. Export Plan and Actual Performance

The First Five-Year Plan which was considered fairly ambitious at the time of its initiation amplified the need 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. The government tried to attract foreign loans and investments by improving incentive schemes and institutional arrangements. At the same time, the government initiated a vigorous export promotion policy in order to satisfy the foreign exchange requirements of the planned investment projects and to offset the declining trend in U.S. grants-in-aid. Exports received considerable stimulus from the adoption of a realistic exchange rate in 1964 and various export promotion measures afterwards. However, the First Five-Year Plan itself did not envision such a rapid expansion of exports, especially of manufactured exports.

The Plan projected an export growth at around 20 percent per annum during 1962-66, i.e., from \$65.9 million to \$137.5 million. Major export items consisted of such primary products as fish, swine, rice, dried-laver, raw silk, tungsten, anthracite, other mineral ores, etc. Only about one-third of total commodity exports in target year were expected to consist of manufactured goods, and nearly half of these would consist of bonded processing. Expected major manufactured exports as listed in the Plan included kohemp cloth, straw-work good, handicrafts, pig iron, ginseng products, menthol ball, saccharin, bismuth, and copper.

Actually, however, commodity exports expanded at around 45 percent per annum during 1962-66 and about two-thirds of total exports consisted

(10) Government of the Republic of Korea, *The Fourth Five-Year Economic Development Plan (1977-81)*, (in Korean), December 1976, pp. 10-11.

Table 1. Export Plan and Actual Performance: 1966

Commodity	Export Plan		Actual Exports	
	Base Year 1960	Target Year 1966	Commodity	Target Year 1966
All Commodities	32.9(100.0%)	137.5(100.0%)	All Commodities	250.3(100.0%)
Food & Live Animals	10.3 (31.1%)	35.8 (26.0%)	Food & Live Animals	47.4 (18.9%)
Other Crude Materials	17.8 (54.1%)	56.1 (40.8%)	Other Crude Materials	48.3 (19.3%)
Manufactured Goods	4.9 (14.8%)	45.7 (33.2%)	Manufactured Goods	154.6 (61.8%)
Cotton Fabrics	2.9 (8.8%)	3.0 (2.2%)	Cotton Fabrics	10.1 (4.0%)
Silk Fabrics	— (—)	0.8 (0.6%)	Woolen Fabrics	2.2 (0.9%)
Kohemp Fabrics	— (—)	1.0 (0.7%)	Synthetic Yarn & Fabrics	9.5 (3.8%)
Other Textiles	— (—)	1.0 (0.7%)	Other Textiles	12.7 (5.1%)
Footwear	— (—)	0.8 (0.6%)	Footwear	5.5 (2.2%)
Straw-Work Good	— (—)	2.8 (2.0%)	Clothing	33.4 (13.3%)
Handicrafts	0.2 (0.6%)	2.1 (1.5%)	Wigs (& Human Hair)	15.5 (6.2%)
Plywood	— (—)	2.0 (1.5%)	Plywood	30.2 (12.1%)
Pig Iron	0.5 (1.5%)	0.5 (0.4%)	Steel Sheets	7.1 (2.8%)
Ginseng Products	0.2 (0.6%)	0.6 (0.4%)	Rubber Tires & Tubes	1.3 (0.5%)
Menthol Ball	— (—)	1.9 (1.4%)	Radio	3.2 (1.3%)
Saccharin	— (—)	1.1 (0.8%)	Electric Lamps	0.9 (0.4%)
Bismuth	0.4 (1.2%)	1.0 (0.7%)	Cement	0.5 (0.2%)
Copper	0.3 (0.9%)	0.6 (0.4%)	Copper	1.1 (0.4%)
Misc. Manufactures	0.4 (1.2%)	6.2 (4.5%)	Misc. Manufactures	8.9 (3.6%)
Bonded Processing	— (—)	20.0 (14.5%)	(Bonded Processing)*	(28.8) (11.5%)

Source: FFYEDP (1962-66) and Ministry of Finance, Foreign Trade of Korea: 1966.

*Included in manufactured goods in general.

Table 2. Export Plan and Actual Performance: 1971
In Thousand Dollars

Commodity	Export Plan		Commodity	Actual Exports	
	Base Year 1965	Target Year 1971		Target Year 1971	Target Year 1971
All Commodities	175.1 (100.0%)	550.0 (100.0%)	All Commodities	1,067.6 (100.0%)	
Food & Live Animals	29.1 (16.6%)	121.4 (22.1%)	Food & Live Animals	84.9 (8.0%)	
Other Crude Materials	39.0 (22.3%)	86.9 (15.8%)	Other Crude Materials	106.2 (10.0%)	
Manufactured Goods	107.0 (61.1%)	341.7 (62.1%)	Manufactured Goods	876.5 (82.1%)	
Cotton Fabrics	10.5 (6.0%)	37.0 (6.7%)	Cotton Fabrics	31.0 (2.9%)	
Woolen Fabrics	2.2 (1.3%)	10.0 (1.8%)	Cotton Yarn	16.2 (1.5%)	
Silk Fabrics	2.5 (1.4%)	5.0 (0.9%)	Synthetic Fabrics	16.4 (1.5%)	
Synthetic Fabrics	2.2 (1.3%)	5.5 (1.0%)	Synthetic Yarn	22.8 (2.1%)	
Other Textiles	14.6 (8.3%)	58.5 (10.6%)	Cordage, Rope, Net	17.2 (1.6%)	
Ceramics	0.2 (0.1%)	15.0 (3.7%)	Other Textiles	20.7 (1.9%)	
Clothing	24.6 (14.1%)	83.9 (15.3%)	Clothing	304.3 (28.5%)	
Wigs	4.3 (2.5%)	10.0 (1.8%)	Wigs	69.9 (6.6%)	
Footwear	4.2 (2.4%)	5.7 (1.0%)	Footwear	37.4 (3.5%)	
Plywood	18.0 (10.3%)	40.0 (7.3%)	Plywood	124.3 (11.6%)	
Steel Plates	10.4 (5.9%)	3.0 (0.6%)	Steel Plates	20.1 (1.9%)	
Radio Receiver	1.4 (0.8%)	8.0 (1.5%)	Radio Receiver	5.8 (0.5%)	
Plastic Products	0.0 (0.0%)	6.0 (1.1%)	Electronics Products	59.2 (5.6%)	
Cement	0.8 (0.5%)	6.4 (1.2%)	Cement	10.6 (1.0%)	
Toys	0.0 (0.0%)	10.0 (1.8%)	Handbags & Travel Goods	5.4 (0.5%)	
Other Manufactures	11.1 (6.3%)	37.7 (6.9%)	Other Manufactures	115.2 (10.8%)	

Source: SFYEDP (1967-71) and the Bank of Korea, *Economic Statistics Yearbook*.

of manufactured goods in target year. Furthermore, quite a few unexpected items emerged as major manufactured exports: clothing, wigs, steel sheets, woolen fabrics, synthetic yarns and fabrics, rubber tires and tubes, radio, etc. About half of total commodity exports in target year consisted of the following six items: textiles, clothing, wigs, footwear, plywood and steel sheets.

The Plan considered export promotion as a means to finance necessary import requirements by export revenue as much as possible, but not as a means for so-called "outward-looking" export oriented growth.⁽¹¹⁾ Most of the policies actually implemented during 1962-66 were not contemplated in the Plan.

The Second Five-Year Plan (1967-71) projected an average annual growth rate of 17 percent for commodity exports, expecting more than one-third of total exports to be consisting of primary goods in 1971. In fact, exports increased by nearly 35 percent per annum during 1967-71 and more than 80 percent of total exports consisted of manufactured goods (i.e., SITC code 5, 6, 7 and 8) in 1971. Exports of clothing amounted to \$300 million and those of various electronics products such as thermionic valves and tubes and transistors amounted to about \$60 million in 1971. Thus, while the plan anticipated the direction of future changes in the structure of industry and trade, it underestimated the extent of those changes.

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 more than 80 percent of total commodity exports by 1971. 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

(11) See *FFYEDP(1962-66)*, p. 32.

Table 3. Export Plan and Actual Performance: 1976

Commodity	Export Plan		Commodity	Actual Exports	
	Base Year 1970	Target Year 1976		Target Year 1976	Target Year 1976
	In Thousand Dollars				
All Commodities	835.2 (100.0%)	3,588.5 (100.0%)	All Commodities	7,715.3 (100.0%)	
Food & Live Animals	79.8 (9.6%)	292.6 (8.2%)	Food & Live Animals	586.6 (7.6%)	
Other Crude Materials	108.8 (13.0%)	226.3 (6.3%)	Other Crude Materials	341.6 (4.4%)	
Manufactured Goods	646.6 (77.4%)	3,069.6 (85.5%)	Manufactured Goods	6,787.1 (88.0%)	
Textiles	84.9 (10.2%)	461.3 (12.9%)	Textiles	954.4 (12.4%)	
Clothing	213.6 (25.6%)	697.7 (19.4%)	Clothing	1,845.5 (23.9%)	
Wigs	100.9 (12.1%)	327.0 (9.1%)	Wigs	69.5 (0.9%)	
Footwear	17.3 (2.0%)	121.5 (3.4%)	Footwear	398.5 (5.2%)	
Plywood	91.8 (11.0%)	159.0 (4.4%)	Plywood	337.1 (4.4%)	
Ceramics	0.9 (0.1%)	33.9 (1.5%)	Cement	109.9 (1.4%)	
Toys & Plastic Goods	12.5 (1.5%)	108.9 (3.0%)	Handbags & Travel Goods	143.0 (1.9%)	
Steel Plates	7.6 (0.9%)	69.2 (1.9%)	Steel Plates	158.2 (2.1%)	
Other Steel Products	5.8 (0.7%)	14.0 (0.4%)	Other Steel Products	210.6 (2.7%)	
Metal Products	12.2 (1.5%)	56.4 (1.6%)	Metal Products	227.4 (3.0%)	
Electrical Products	35.9 (4.3%)	452.0 (12.6%)	Electronics Products	766.6 (9.9%)	
Electrical Machinery	8.0 (1.0%)	102.4 (2.9%)	Electrical Machinery	145.9 (1.9%)	
Machinery	8.4 (1.0%)	67.8 (1.9%)	Machinery	129.2 (1.7%)	
Ships	2.5 (0.3%)	100.0 (2.8%)	Ships	278.2 (3.6%)	
Precision Instruments	3.5 (0.4%)	35.1 (1.0%)	Precision Instruments	137.3 (1.8%)	
Misc. Manufactures	40.8 (4.9%)	263.4 (7.3%)	Misc. Manufactures	875.8 (12.9%)	

Source: *TFYEDP (1972-76)* and the Bank of Korea, *Economic Statistics Yearbook*.

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.

The Third Five-Year Plan projected a 28 percent annual growth for commodity exports during 1972-76 and planned to expand the proportion of so-called heavy and chemical products in total exports from about 14 percent in 1970 to about 33 percent in 1976.⁽¹²⁾ Exports actually expanded at around 45 percent per annum in nominal prices and at around 33 percent in 1970 constant dollar prices in spite of the oil crisis and world-wide recession in 1974-75. The Plan made some preposterous linear extrapolations in export expansion as exemplified by the projection for wigs, while underestimating export potential for clothing and various steel products. As a whole, however, the shifts in export pattern occurred along the line delineated by the Plan. The Plan emphasized that 1972-76 will be a period to lay a foundation for export expansion of heavy and chemical products, and indeed their share in total exports has significantly increased.

The Fourth Five-Year Plan (1977-81) projected a 16 percent annual increase in commodity exports in 1975 constant dollar prices and strongly emphasized a structural shift in commodity composition of exports toward heavy and chemical products. The proportion of heavy and chemical products in total commodity exports was planned to increase from 29 percent in 1975 to 46 percent in 1971 assuming the same weight as the light manufactures exports.

The export promotion measures adopted in Korea since early sixties were concerned only for gross export volume and more or less ignored the value-added aspect of export earnings. As a result, import content of Korea's exports did not show any tendency to decline.⁽¹³⁾ The share of imports

(12) *TFYEDP(1972-76)*, pp. 24-25.

(13) Balassa argues that the main beneficiaries of the various export promotion measures are industries that rely heavily on imported raw materials, intermediate products and capital goods because such imports enjoy tariff exemptions and wastage allowances as well as financing at preferential interest rates. This is counter to the Government's announced intention of promo-

Table 4. Export Plan for 1981

In 1975 Million Dollars

Commodity	Base Year 1975	Target Year 1981
All Commodities	5,081(100.0%)	14,165(100.0%)
Primary Products & Processed Foods	770 (15.1%)	1,130 (8.0%)
Light Manufactures	2,819 (55.5%)	6,520 (46.0%)
Textiles & Clothing	1,817 (35.8%)	3,740 (26.4%)
Footwear	191 (3.8%)	650 (4.6%)
Wood Products	243 (4.8%)	500 (3.5%)
Others	568 (11.1%)	1,630 (11.5%)
Heavy & Chemical Products	1,492 (29.4%)	6,515 (46.0%)
Steel & Metal	367 (7.2%)	1,040 (7.3%)
Machinery	289 (5.7%)	1,415 (10.0%)
Electronics	409 (8.0%)	1,940 (13.7%)
Ships	138 (2.7%)	910 (6.4%)
Petrochemicals	188 (3.8%)	930 (6.6%)
Others	101 (2.0%)	280 (2.0%)

Source: *FFYEDP (1977-81)*, pp.184-185.

which are used as intermediate inputs in export production increased steadily from about 14 percent of total commodity imports in 1966 to about 33 percent in 1976. Their import value was equivalent to around 40 percent of the total value of commodity exports during 1966-77. 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 over-estimated due to the official wastage allowances which leaked out large amount of duty-free imported raw materials to the domestic market.

V. Conclusion

Many officials from all parts of the government participated in the formulation of the Second and subsequent Five-Year Plans. Since the various

ting exports with a high domestic content. Bela Balassa, "Trade Policy and Planning in Korea," in *Basic Documents and Selected Papers of Korea's Third Five-Year Economic Development Plan(1972-76)*, edited by S. H. Jo and S. Y. Park, Seoul: Sokang University Press, 1972.

agencies of the government began to suspect that planning might have a significant influence on budgetary and other policies, it was taken more seriously. Thus, the investment program of the plan has come to be accepted as a general guide to the government capital budget, to decisions regarding the approval of foreign investments and loans, and to projections of Korean economic growth.⁽¹⁴⁾ In particular, businessmen began to recognize that subsidies and other promotional schemes would be concentrated on those industrial activities which the government professed to encourage. Consequently, they became more willing to make investment decisions in accordance with the guidance provided by the government.

On the other hand, the increased tax revenue implied that more funds were available to the government for its investment activities. Furthermore the distribution of bank loans was kept under virtually complete control, and the distribution of foreign loans and investment, whose inflow had greatly expanded since 1966, was also controlled by the government. The government was further able to influence the output and factor markets themselves through tariffs and quotas, exchange rates, indirect taxes, and taxes on factor income. With such powerful tools at hand, the Korean government was able to synchronize its trade and subsidy policies to achieve a more or less well-defined set of goals. These systematic efforts soon started to produce positive results, especially with the beginning of the Second Five-Year Plan (1967-71).

Occasionally there existed mutually inconsistent and contradictory plans and policies, such as the desire to increase domestic savings while simultaneously maintaining negative real interest rates on time and savings deposits during the First and Third Five-Year Plan periods. Despite such exceptions trade and subsidy policies gradually became more systematic by the presentation of a long-term vision. Furthermore, with the more or less successful implementation of a series of five-year plans, the Korean people as a whole became more confident of the benefits to be derived from planning and also more optimistic of future economic growth.

The government started to promote export expansion early in the sixties in order to reduce the balance of payments deficit. Nevertheless, this policy

(14) D.C. Cole and P.N. Lyman, *op. cit.*, p. 218.

seems to have been developed in the absence of any concrete ideas as to exactly which industries enjoyed comparative advantages in export production. Most of the subsidy policies did not directly discriminate among industries and did not favor any specific kind of industry. As demonstrated by the First Five-Year Plan document, the government did not envision a major role for labor-intensive manufactured exports. However, as export expansion arose along the lines of classical comparative advantage theory, the government quickly started to channel investments into such emerging export sectors as textiles, clothing, plywood, electronics, and wigs. While the government maintained a high effective exchange rate, it seems to have been the private entrepreneurs who played the major role in the determination of sectoral resource allocations for exports.

With the advent of the seventies, but especially in the preparation of the Fourth Five-Year Plan(1977-81), the Korean government appears to have discarded this policy. Thus it has started, though very crudely, to project expected future export patterns corresponding to the assumed states of comparative advantage at higher per capita income levels. At the same time it has started to plan investment schedules for such industries as shipbuilding, electronics, machineries, steel and metal products, and petro-chemicals. That is, instead of following the lead of private enterprises in sectoral resource allocation, the government has tried to lead the entrepreneurs according to the expected changes in the Korean comparative advantage. It is generally expected that Korea will soon lose its comparative advantage in relatively unskilled-labor intensive manufactures and will gain comparative advantages in relatively skill intensive and also moderately capital intensive manufacturing.

It seems clear that most of the export promotion policies of the sixties did not systematically favor specific export industries as to “directly” affect the factor intensity of exports. Of course, some policies, such as the subsidized financing of capital goods imports, could have “indirectly” affected the factor intensity of exports as well as import substitution. To that extent, some alteration of policies within the same trade strategy could have furthered the employment goal. In the seventies, however, there appeared a major export promotion policy which would directly affect the factor intensity of exports. The objective of achieving a basic structural shift in

the composition of Korea's exports during the Fourth Five-Year Plan period (1977-81) from the light-industrial products to the so-called heavy and chemical products would imply the channelling of large amount of investment funds into such sectors as machinery, electronics, shipbuilding, steel and metal products, and petro-chemicals at subsidized interest rates. As a result, government decisions in selecting specific industries to be promoted as major export sectors will directly affect the factor intensity of exports and employment growth.

Conclusions on employment implications of the export-led growth in Korea are as follows: First, there has been a continuous shift in employment from the farm sector to the manufacturing sector, due to the rapid export-led growth of manufacturing production. Second, within the manufacturing sector, capital intensity has been increasing since the early 1960s, with the rate of increase at first higher in import-competing industries than in exports' until the early 1970s when capital intensity began to rise faster in exports. This has been attributed to the higher rate of capital subsidization in export industries, resulting in the differential increase in the wage-rental ratios. Thus, with this extensive capital subsidization, manufactured exports have not been creating employment as much as they would otherwise have. A similar conclusion is drawn with respect to the manufacturing sector as a whole *vis-à-vis* other sectors. But on the whole, available employment data seem to show that Korea began to have full employment since about 1970, implying that the growth in total employment could not have been higher even though the wage-rental ratios did not increase as much as they could have. Therefore the effect of export promotion on employment in Korea was a rapid growth in total employment in the 1960s, a relatively full employment since about 1970 and a change in the sectoral distribution of employment. This has been at a high cost of capital subsidization.

It should also be noted that deducing the direct employment effects of trade and subsidy policies would not provide an adequate basis to judge the overall efficiency of such policies. For instance, Korea's exports might have been less capital intensive if there had been no subsidy on capital use, but one might question whether Korea could have expanded its exports (and GNP) so rapidly if it had strongly emphasized less capital-intensive production. Slower growth in export earnings might also have resulted in slower

growth of the Korean economy as a whole, thus reducing overall employment growth rates.

Throughout the period 1962-77, Korean government kept pursuing the policies to promote exports and foreign capital inflow, to control the rate of increase in imports and to sustain high growth in GNP. As a result, the rapid expansion in commodity exports as well as high growth rate of GNP were maintained. Although there was a substantial inflow of foreign capital, the overall balance of payment position of Korea steadily improved during 1962-73 and after the temporary disruption caused by oil crisis in 1974-75, resumed such a trend in 1976. ⁽¹⁵⁾

With an average annual growth rate of 10 percent, Korea's GNP has doubled every seven years since 1962. The projected annual growth rate for GNP for the period 1977-81 is about 10 percent which, if attained, implies the same rate of increase. If everything proceeds as expected, GNP will have expanded more than 16 times during the 30-year period since 1962, and Korea will have experienced two major transformations in its trade and production structure: a transformation from primary industries to light manufacturing industries in the first half, and a transformation from light manufacturing industries to heavy and chemical industries in the second half. The kind of transformation which can also be expected in the near future might well be a change in the socio-economic structure in terms of improved public services and welfare activities as well as an equitable income distribution.

(15) There has been no major movement toward import liberalization since 1967 other than slightly lowered tariff rates on imports in 1973. The degree of import liberalization was quite low in 1977 and hence the continued export thrust has quickened the pace of Korea's movement toward an export surplus. As long as the necessity for substantial foreign capital inflows can be economically justified on the basis of the marked difference between the rate of return on capital in Korea and the cost of foreign borrowing, an export surplus and excessive foreign exchange holdings may be nothing but an unnecessary waste of resources. The adoption of a more liberal import policy is also desirable as a means to curb inflationary pressure which can arise from the current account surplus and as a means to increase the efficiency of domestic industry by opening up the economy to foreign competition.