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Growth and Prospects of the Korean Economy

Annex I — Foreign Trade

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CURRENCY EQUIVALENTS

US$1.00	=	Won 485.00 /1
Won 1.00	=	US$0.0206
Won 1 million	=	US$2,061.85

ABBREVIATIONS AND ACRONYMS

BOK	-	Bank of Korea
EPB	-	Economic Planning Board
FFYP	-	Fourth Five-Year Plan
IBRD	-	International Bank for Reconstruction and Development
MAF	-	Ministry of Agriculture and Fisheries

GOVERNMENT OF KOREA FISCAL YEAR

January 1 - December 31

/1 The Won was devalued from 400 to 485 won per US dollar with effect from December 7, 1974.

GROWTH AND PROSPECTS OF THE KOREAN ECONOMY

ANNEX I

FOREIGN TRADE

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The full report consists of the following separately bound volumes:

Main Report
Statistical Appendix
Annexes: A - Agriculture
B - Industry
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D - Macro Model
E - Energy
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GROWTH AND PROSPECTS OF THE KOREAN ECONOMY

ANNEX I - FOREIGN TRADE

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1. EXPORTS - A HISTORICAL PERSPECTIVE

1.01 It is generally agreed that the expansion of exports, and particularly, of manufactured exports, has played a crucial role in the Korean growth process. In the early 1960s exports, though moderately buoyant, constituted less than 5% of GNP. Between 1965 and 1975 however, the pace of export expansion has been phenomenal. Merchandise exports which had totalled $175 million in 1965 grew at an average rate of about 40% p.a. in current prices (the growth rate measured in 1970 prices, was about 34% p.a. in 1965-75) to more than $5 billion in 1975. In 1976, they are expected to total about $8 billion. The impetus to export growth has emanated from manufactured exports. Despite the buoyancy of certain primary products such as fish preparations, fruits and vegetables, dried larvae etc. their performance has been eclipsed by that of manufactured exports./1 As early as 1965, manufactured exports alone totalled $144 million, constituting as much as 82% of merchandise exports, and about 8% of manufactured output. By 1976, their share in total merchandise exports is expected to exceed 90% and their share in manufactured output to exceed 25%.

1.02 The Korean record appears all the more spectacular when placed in the context of developments in world trade in manufactured goods. During the past few years, the net growth in world trade in manufactures has been relatively small, yet Korea was able to almost double its export volume between 1973-76 and to almost triple export volumes over the period of the Third Plan (1972-76).

1.03 The Korean FFYP targets a rate of growth of merchandise exports of 16% p.a., implying export volumes of around $14 billion by 1981 (in 1975 prices), a shift in the share of manufactured exports to around 92% of the total (with a 16.5% growth rate of manufactured exports), and a targeted rise in the share of exports in manufacturing activity from around 23% in 1975 to more than 27% in 1981. A judgement on the feasibility of these growth rates, structural shifts, and patterns of export dependence, must be based on a variety of considerations: forecasts of the growth of international trade particularly in manufactures, informed estimates of the probable trends in economic activity in Korea's major trading partners, prospects of competition from other LDCs, and above all on an appraisal of the strength of Korean export and manufacturing activity, the "robustness" of its export structure, Korea's ability to lay the groundwork for shifts in its industrial/export structure and its ability to carry through the requisite policy measures. We shall look at each of these aspects in turn. In the section which follows, we begin, for the purposes of appraising both the feasibility of Korea's targets and the degree of flexibility of its export structure, with an analysis of the strength of Korea's export growth and structure in the past.

/1 Here, as in the FFYP, the term manufactured exports encompasses all exports other than exports of food and live animals, beverages and tobacco, mineral fuels, lubricants and related materials, and animal and vegetable oils and fats.

Historical Trends

The Role of Export Growth

1.04 The high aggregate growth rates (detailed above) of both total exports and of manufactured exports over the period 1965-75 (34% p.a. and 33% p.a. respectively, in 1975 prices) had considerable impact on the Korean economy. Not only did the share of exports in GNP rise from 5% in 1965 to around 28% in 1975 (implying an incremental contribution of about 42% over the period), the contribution of manufactured exports to manufactured output has been both considerable and varied. First, the average direct incremental contribution of export-expansion to total manufacturing growth for the period 1963-73, was as high as 27%, having started from a level of around 5% in 1960-63, and having risen to about 36% by 1970-73 (see Annex B, Table 4). Adding the indirect output effects of the interindustrial intermediate demands emanating from export activity, almost doubles the contribution of the export sector relative to that of domestic demand and import substituting activities. Second, there have been the additional beneficial effects of export activity on increased capacity utilization, not only through the tapping of foreign demand, but also through the provision of crucial complementary inputs by the rapid expansion of foreign exchange earnings. Annex B (see Table 6) documents the tremendous increase in capacity utilization at a growth rate of about 7% p.a. between 1962-71, which raised Korea's aggregate capacity utilization to a level comparable to that in developed countries. There is little doubt that exports contributed significantly to this process. Third, though the process is difficult to document, export activity has probably had yet other indirect effects on manufacturing performance, particularly in terms of economic efficiency. The importance of maintaining a competitive edge in international markets was undoubtedly a force behind the doubling of total factor productivity which occurred in Korean manufacturing between 1960 and 1973, and it was also perhaps responsible for the small increase in the labor-capital ratio in manufacturing activity which occurred over the same period. This brings one to the fourth major effect of export activity on the Korean economy; the effects on employment. The evidence set out in Annex B, Table 5 demonstrates that the growth of manufactured exports between 1960 and 1970, was responsible for about 38% of the growth of employment in manufacturing and about 33% of the growth of total employment. Delving behind these aggregate figures with the help of input-output data /1 reveals that Korea's manufactured exports became increasingly labor-intensive /2 between 1960 and 1968. This was in some measure responsible for ensuring the relative labor intensity of manufacturing compared to that of the economy as a whole, throughout the period 1960-68. Since a large part of the explanation for the increasing labor intensity of manufactured exports lies in the changes which occurred in the structure of manufactured exports over the period, we shall look at the structure of Korean exports in some detail.

/1 Larry E. Westphal and Kwang Suk Kim, Industrial Policy and Development in Korea, The World Bank, February 1974, (mimeo).

/2 As measured by the labor - capital ratio.

Export Structure

1.05 The phenomenal expansion in aggregate exports has however been accompanied only by modest changes in the commodity and market structure of exports. An analysis of Korea's product-cum-geographical export performance reveals that Korea's export strategy has been the outcome of a rather careful exploitation of its comparative advantage. We shall study both the product structure and Korea's geographical market configuration in the sections which follow.

Commodity Composition

1.06 An analysis of the export values, shares in total exports, and growth rates of a selected list of two-digit commodity groups, which have been responsible for more than 75% of Korea's total exports since 1965 (see Table I.1), throws up three major conclusions.

1.07 First, Korea' export structure has continued to display a high degree of reliance on a handful of export commodities over the whole decade 1965-75. Six /1 major two-digit commodity groups: textiles, clothing, footwear, wood products (primarily plywood), electrical machinery (largely electronics products), and miscellaneous manufactures (the group including wigs and eyelashes), contributed about 46% of export earnings in 1965; in 1970 and 1975 their shares were even higher: 68% and 60% respectively. The growing reliance on these commodities was not the passive outcome of neglect of new development opportunities, but rather a result of the buoyancy of these traditional categories. A recent study on the performance of LDC exports into industrial countries confirms that exports of clothing, electronics, wood manufactures and footwear (the very commodities which have figured prominently in Korea's export basket registered growth rates (in current prices) over the period 1967-73, higher than the overall growth rate of aggregate LDC exports./2 In fact a ranking of US imports from LDCs by import shares in 1974 when compared to the US import picture in 1967 and 1973 shows that the relative importance of Korea's traditional exports appears to have grown indisputably, in recent years. A check on the rankings of LDC shares in Japanese imports in 1973 reveals a similar pattern. Between 1967 and 1973 a change appears to have occurred in favor of LDC exports of clothing, footwear, furniture, leather products, textiles, wood and cork manufactures (see Table I.2). Certainly therefore, Korea appears to have been in the right export categories, by design.

1.08 This is not to say that there was no diversification at all in Korea's commodity structure. Indeed the second major conclusion which emerges from our analysis is that even at the two-digit level (transport equipment, travel goods and handbags, metal manufactures are cases in point), but more particularly at the more detailed three-, four- and five-digit

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/1 SITC groups 65, 84, 85, 63, 72 and 89.

/2 Donald B. Keesing and Phi Anh Plesch: "Industrial Countries' Manufactured Imports from Developing Countries." IBRD, May 5, 1976, (mimeo).

Table I.1: EXPORT PERFORMANCE OF SELECTED COMMODITIES /a 1965-70, 1970-75

SITC	Categories	Export Values ($ million) 1965	1970	1975	% Shares in Total Exports 1965	1970	1975	Annual Compound Rates of Growth (Current $) 1965-70	1970-75
03	Fish and fish preparations	17.8	40.8	359.5	10.2	4.9	7.1	18.0	54.5
06	Sugar and sugar preparations	0.8	1.5	119.1	0.4	0.2	2.3	13.8	139.9
12	Tobacco and tobacco manufactures	0.9	13.5	66.5	0.5	1.6	1.3	72.9	38.6
26	Textile fibers	7.7	42.6	43.0	4.4	5.1	0.9	40.7	0.2
33	Petroleum and petroleum products	0.0	4.9	95.4	0.0	0.6	1.9	n.c./b	81.1
62	Rubber manufactures	1.0	3.7	90.9	0.6	0.4	1.8	28.9	89.4
63	Wood and cork manufactures (excluding furniture)	18.2	93.5	227.6	10.4	11.2	4.5	38.7	19.5
65	Textile yarn; fabrics, made-up articles, and related products	26.3	84.9	648.9	15.0	10.2	12.8	26.4	50.2
66	Nonmetallic mineral products	2.8	6.5	106.8	1.6	0.8	2.1	18.7	75.0
67	Iron and Steel	12.7	13.4	231.5	7.3	1.6	4.6	1.0	76.8
69	Manufactures of Metal	2.2	12.2	124.1	1.2	1.5	2.4	41.2	59.0
71	Machinery other than electric	2.5	8.4	76.8	1.4	1.0	1.5	27.4	55.7
72	Electrical Machinery apparatus & appliances	1.9	43.9	441.6	1.1	5.3	8.7	87.1	58.7
73	Transport Equipment	1.1	9.2	183.7	0.6	1.1	3.6	53.0	82.0
83	Travel goods, handbags and similar articles	0.1	2.5	79.5	0.0	0.3	1.6	90.4	99.7
84	Clothing	20.7	213.6	1,148.2	11.8	25.6	22.6	59.4	40.0
85	Footwear	4.2	17.3	191.2	2.4	2.1	3.8	33.0	61.7
86	Professional, scientific & controlling instruments	0.4	3.5	68.3	0.2	0.4	1.3	53.0	81.2
89	Miscellaneous manufactured articles	8.9	114.1	383.6	5.1	13.7	7.5	66.4	27.4
	Total Selected Exports	130.2	730.0	4,686.2	74.4	87.4	92.2	41.5	45.2
	Total Exports	175.1	835.2	5,081.0	100.0	100.0	100.0	36.7	43.5

/a Commodities selected for inclusion in the table fulfilled either one of the following criteria. They either attained:

(i) High volumes: more than $5 million in 1970 or $50 million in 1975, or
(ii) High growth rates: either 30% per annum compound in 1965-70, or 50% per annum compound in 1970-75.

/b Not calculated since base value in 1965 was zero.

Source: The Bank of Korea, Economic Statistics Yearbook, various issues.

Table I.2A: TEN MOST IMPORTANT US IMPORTS FROM LDCs RANKED BY IMPORT SHARES IN 1974 IN COMPARISON WITH 1967 AND 1973, AT THE TWO-DIGIT SITC LEVEL ($ million, current prices)

SITC	Description	1967 Value	1967 Import Share (%)	1973 Value	1973 Import Share (%)	1974 Value	1974 Import Share (%)
84	Clothing	262.2	40.4	1,463.9	67.5	1,712.2	73.7
83	Travel goods & handbags	24.0	33.3	119.3	55.6	142.0	68.1
63	Wood & cork manufactures	115.0	38.0	446.3	51.0	382.0	55.5
72	Electrical machinery	113.1	9.9	1,742.6	38.7	2,458.3	45.4
65	Textiles	322.2	39.7	576.2	36.5	737.2	45.3
61	Leather & leather products	21.7	24.3	76.6	39.1	80.9	42.9
85	Footwear	25.8	9.8	338.5	31.3	444.4	38.5
55	Perfumes, cleansing products, etc.	20.2	29.4	38.5	26.5	73.6	35.4
81	Plumbing, heating, lighting equipment	5.2	15.5	29.6	29.0	32.1	33.5
89	Miscellaneous manufactured goods	201.6	19.5	822.5	26.6	1,260.1	32.2

Source: Donald B. Keesing and Phi Anh Plesch, "Industrial Countries' Manufactured Imports from Developing Countries," IBRD, May 5, 1976 (mimeo).

Table I.2B: TEN MOST IMPORTANT JAPANESE IMPORTS FROM LDCs RANKED BY IMPORT SHARES IN 1973, IN COMPARISON WITH 1967, AT THE TWO-DIGIT SITC LEVEL
($ million, current prices)

SITC	Description	1967		1973	
		Value	Import Share (%)	Value	Import Share (%)
84	Clothing	4.6	28.9	415.7	72.5
85	Footwear	0.2	10.0	33.7	60.1
82	Furniture	0.2	1.0	32.7	52.6
61	Leather & leather products	6.3	56.3	40.3	52.3
65	Textiles	25.7	25.1	559.3	49.4
63	Wood & cork manufactures	3.3	10.0	249.1	49.1
83	Travel goods & handbags	0.4	12.5	19.4	47.0
52	Coal, petroleum chemicals	0.0	0.0	1.6	43.2
66	Nonmetallic mineral products	23.8	26.3	206.7	35.0
67	Iron & steel	46.8	12.7	57.6	24.8
62	Rubber manufactures	0.0	0.0	8.5	24.8

Source: Donald B. Keesing and Phi Anh Plesch, "Industrial Countries' Manufactured Imports from Developing Countries," IBRD, May 5, 1976, (mimeo).

levels, a whole host of new commodities appeared, displaying considerable flexibility in their ranks. This dynamism which is evident both within the traditional as well as within the new export commodity groups, suggests that Korea has by no means been locked into a restricted product strategy.

1.09 The third major conclusion concerns the factor intensity pattern of trade. Analyses covering the period 1960-68,/1 reveals that manufactured exports were consistently more labor intensive (measured by the labor-capital ratio) than imports of manufactures in every year, and this labor intensity tended to increase over time. A large part of the explanation for this was due to the changes in the composition of exports. The growing reliance, which we have already remarked for the period 1965-70, on traditionally labor intensive manufactures such as clothing, electronics, wigs, footwear etc. undoubtedly contributed to the increase in labor intensity of manufactured exports. Another study by Hong /2, which extends the period of analysis beyond 1968 to 1973, reveals however that particularly after 1968, the labor intensity of manufactured exports declined. However, this does not necessarily imply a negation of comparative advantage. Particularly after 1970 (as Annex B, Chapter 1 points out), exports of cement, steel, fertilizer, textiles and miscellaneous manufactures based on petrochemical derivatives increased. Since the production of these commodities (or of their intermediate requirements) are subject to rather severe scale constraints, temporary exports were a necessary expedient, accommodating the construction of larger scale plants. The rise in the aggregate capital-labor ratio of manufactured exports in the period following 1968 may therefore have been to Korea's dynamic comparative advantage. Yet another tentative development which marks the post-1970 period is the emergence of a trend in the direction of greater skill-intensity (measured by the skilled labor - unskilled labor ratio) of exports. As early as 1970 electronics had already made their mark, but subsequently a whole range of new commodities embodying more sophisticated production techniques e.g., shipbuilding, non-electrical machinery, metal products, precision instruments, began to tilt the balance in the direction of greater skill-intensity.

Market Composition

1.10 The observed dominance of the shares of Korea's traditional exports has a counterpart in the sphere of Korea's geographical market structure. Indeed a much greater constancy is observable in the shares of Korea's major trading partners, in particular the US and Japan.

1.11 The US and Japanese markets have generally absorbed more than 70% of Korea's aggregate exports. Such dependence is hardly surprising. The

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/1 Larry E. Westphal and Kwang Suk Kim: Industrial Policy and Development in Korea, The World Bank, February 1974, (mimeo).

/2 Wontack Hong, Factor Supply and Factor Intensity of Trade in Korea, Korea Development Institute, Seoul, 1976.

US was the leading importer of LDC manufactures in the 1960s and its share of LDC exports has continued to expand in the 1970s. In the period 1967-73, for example, the US steadily absorbed more than 40% of LDC manufactured exports. Thus, Korean export strategy in the US apparently sought to exploit this pattern. The dependence on the Japanese market has been similarily motivated. Japan's share in LDC manufactured exports has grown remarkably since 1965 (from around 5% in 1967 to around 13% by 1973). But an equally important factor has been Korea's traditional links with Japan. Thus it is not surprising that even as late as 1973, the combined share of the US and Japan exceeded 70%. It is well to point out, however, that in subsequent years the combined share has declined and is expected to have been around 56% in 1976 (see Table I.3).

Commodity and Market Strategy

1.12 The particular strategy which Korea has apparently followed in widening the geographical spread, range and skill-intensity of its exports while apparently maintaining relatively undisturbed the broad structure and labor-intensity of its exports, has been due to a careful combination of two major drives: (a) a drive towards the diversification of product categories and markets, and (b) very nimble manoeuvering in and out of particular products and geographical areas to suit the shifting tastes of particular markets and the overall trends in the international economy. This has been responsible for the seemingly contradictory result: relative constancy or growth of the traditional two-digit export groups, coupled with proliferation in the number of new markets, new commodity exports (both traditional and nontraditional), and flexibility in their shares over time.

Diversification

1.13 The diversification of exports has occurred not only at the level of the detailed commodity (i.e., beyond the two-digit level) but at the broad two-digit level as well. Though this has not apparently upset the pattern of dominance of the traditional exports at the two-digit level, the "density" of the export structure has increased. Again, this is a feature which characterizes Korean performance in a variety of geographical markets. The examples described below are indicative of trends in several commodity categories and markets.

1.14 The increase in "density" has been remarkable even at the relatively aggregative two-digit level. In 1967 the number of such groups with exports in excess of $10 million was only 6; by 1975 their number had risen to 23, and in as many as 15 of these, export values exceeded $50 million. Analysis at a more detailed commodity level also reveals clear signs of diversification. Within the larger groups SITC 899 and SITC 71 for example, the number of four-digit and three-digit groups with exports approximating $1 million, rose from 1 to 6 in the first case and 3 to 6 in the second, between 1967 and 1975 (see Table I.4). Thus, though export values in each of the new three- or four-digit levels (particularly if they fell outside the traditional export categories), were addmittedly not always significantly high, the process of diversification was important in that Korea was able to stake a claim to new commodity and geographical markets.

Table I.3: MARKET SHARES IN TOTAL KOREAN EXPORTS, 1965-75
(in %)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
US	35.2	38.3	42.9	52.1	50.7	47.3	49.8	46.7	31.7	33.5	30.2
Japan	25.1	26.5	26.5	21.9	21.4	28.1	24.5	25.1	38.5	30.9	25.5
US and Japan	60.3	64.8	69.4	74.0	72.1	75.4	74.3	71.8	70.2	64.4	55.7
Others, including Middle East	39.7	35.2	30.6	26.0	27.9	24.6	25.7	28.2	29.8	35.6	44.3
of which:											
Europe	12.2	13.7	10.4	8.0	8.9	9.1	8.2	10.2	11.8	13.8	18.4
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: The Bank of Korea, Economic Statistics Yearbook, various issues.

Table I.4: THE DIVERSIFICATION OF KOREAN EXPORTS

		Value of Exports (million dollars) 1967	1975
SITC 899: Other Manufactured Goods			
SITC 8991	Articles and manufactures of carving or moulding material	-	2.1
SITC 8992	Basket work and other articles of plaiting materials	0.8	6.0
SITC 8993	Candles, matches, combustible products, smoker's requisites	-	7.0
SITC 8994	Umbrellas, parasols, walking sticks, and similar articles	-	9.6
SITC 8995	Small wares and toilet articles	0.2	1.1
SITC 8996	Orthopaedic appliances, hearing aids, artificial body parts, etc.	-	0.2
SITC 8999	Other manufactured articles, n.e.s.	23.8	78.5
SITC 71: Machinery other than Electric			
SITC 711	Power generating machinery, other than electric	1.0	2.4
SITC 712	Agricultural machinery and implements	-	0.8
SITC 714	Office machines	-	44.1
SITC 715	Metal working machinery	0.2	1.0
SITC 717	Textile and leather machinery	1.5	10.6
SITC 718	Machines for special industries	0.1	3.7
SITC 719	Machinery and appliances (other than electrical) and machine parts	1.1	14.2

1.15 An extraordinary amount of commodity diversification took place also in Korea's different geographical markets in the period 1967-73 but more particularly in the period since 1970. The experience in the US and Japan is illustrative of trends. (See Tables I.5 and I.6). Even abstracting from the traditional export areas in which Korea had already accumulated a certain market experience by 1967, the data on the movements in Korean export shares in the US, documents the remarkable strides Korea made over a considerable range of commodities, particularly between 1970 and 1973. The areas of penetration and/or expansion covered medicinal products, rubber manufactures, iron and steel plates and sheets, cutlery, nonelectric machinery, furniture, travel goods and handbags, instruments and clocks. Look at another way, of the 27 two-digit categories which comprise manufactured goods, defined as SITC categories 5-8 minus 68, Korean exports to the US in 1970 were sizeable (i.e., more than $0.1 million) in only 16 categories. By 1973 this number had risen to 23 and in as many as 18 of these export levels had exceeded $1.0 million. Penetration in the Japanese market covered an even wider front. Among the new range of exports, shares jumped between 1970 and 1973 in chemicals, particularly inorganic chemicals, paper and paperboard manufactures, iron and steel, metal manufactures, nonelectrical machinery, electrical machinery covering both electronics products and other goods, and other kinds of miscellaneous manufactured products. This penetration occurred also at the more detailed product level.

Table I.5: SELECTED US IMPORTS FROM KOREA AND DEVELOPING COUNTRIES: CURRENT VALUES AND SHARES 1967, 1970, 1973

SITC	Description	US Imports (in million dollars) and LDC Shares (%) 1967 Total Imports	1967 LDC Share	1970 Total Imports	1970 LDC Share	1973 Total Imports	1973 LDC Share	Korean Exports to the US (in million dollars) 1967	1970	1973	Korean Share in LDC Exports to the US (%) 1967	1970	1973	Korean Share of US Imports (%) 1967	1970	1973
54	Medicinal products	—	—	87.3	22.2	167.2	19.9	—	0.1	0.5	—	0.5	1.4	—	0.1	0.3
62	Rubber manufactures	93.7	99.1	214.4	4.3	565.9	3.6	0.2	0.5	6.7	0.2	5.4	32.9	0.2	0.2	1.2
631.2	Plywood	142.4	54.1	209.3	67.0	391.9	77.2	30.1	74.3	166.0	39.0	53.0	54.9	54.1	35.5	42.3
641.9	Bulk paper (other than printing and hand-made paper, fibreboard, etc.)	11.4	4.7	18.1	6.8	33.1	5.2	0.5	1.1	1.5	89.0	93.2	90.3	4.2	6.8	4.7
65	Textile yarns, fabrics	811.9	40.2	1,135.4	29.5	1,579.7	36.5	9.9	13.8	20.2	3.1	4.1	3.5	1.2	1.2	1.3
674	Iron and steel universals, plates, sheets	567.0	3.4	908.7	3.0	1,330.1	4.8	—	2.7	49.7	—	9.8	78.0	—	0.3	3.7
696	Cutlery	42.6	14.8	99.2	12.6	131.9	20.2	0.6	4.2	12.1	25.7	33.7	45.5	1.3	4.2	9.2
71	Machinery, nonelectric	1,889.0	0.7	3,017.3	2.6	5,467.6	4.3	—	0.4	22.3	—	0.5	9.4	—	—	0.4
729.3	Transistors, valves, etc.	101.3	24.7	223.6	62.3	704.1	75.7	0.9	23.7	86.1	3.4	17.0	16.1	0.8	10.6	12.2
821	Furniture	90.8	9.3	231.1	9.9	402.4	16.1	—	0.1	5.1	—	0.6	7.8	—	0.1	1.3
831	Travel goods handbags	72.0	33.5	105.2	40.5	214.6	13.8	—	2.0	16.5	—	4.7	13.9	—	1.9	7.7
84	Clothing	648.8	42.0	1,266.6	51.1	2,150.9	67.5	28.3	118.2	242.5	10.4	18.2	16.6	4.4	9.3	11.3
841.4	Knit clothing and accessories	262.6	48.5	487.6	55.8	765.6	65.0	8.9	56.1	87.2	7.0	20.6	17.5	3.4	11.5	11.4
85	Footwear	263.2	9.8	629.4	13.3	1,082.0	31.3	7.0	13.0	61.2	27.1	15.5	18.1	2.7	2.1	5.7
86	Instruments, watches, clocks	433.4	1.7	645.6	2.7	1,159.5	5.9	0.2	0.5	3.3	2.3	3.0	4.9	—	0.1	0.3
89	Miscellaneous manufactures	1,034.5	19.7	1,910.3	27.1	3,089.3	26.6	22.6	91.7	125.1	11.1	17.7	15.2	2.2	4.8	4.0
	Total US manufactured imports /a	26,815.6	28.6	39,963.2	25.9	69,475.7	29.0	117.1	370.2	973.7	1.5	3.6	4.8	0.4	0.9	1.4

/a In SITC Categories 5-8 minus 68.

Source: UN Commodity Trade Statistics, 1967, 1970 and 1973, Statistical Papers Series D Vol. XX, No. 1-20, Vol. XVII, No. 1-25, Vol. XXIII No. 1-39.

Table I.6: SELECTED JAPANESE MANUFACTURED IMPORTS FROM KOREA AND DEVELOPING COUNTRIES: CURRENT VALUES AND SHARES, 1970, 1973

SITC	Description	Japanese Imports (in million dollars) 1970 Total Imports	1970 LDC Share	1973 Total Imports	1973 LDC Share	Korean Exports to Japan (in million dollars) 1970	1973	Korean Share in LDC Exports (in percent) 1970	1973	Korean Share in Japanese Markets (in percent) 1970	1973
51	Chemical Elements and Compounds	349.0	5.0	646.8	6.3	1.9	7.7	10.9	18.8	0.5	1.2
512	Organic Chemicals	226.7	1.9	384.0	6.9	1.0	3.8	23.8	14.3	0.5	1.0
514	Other Inorganic Chemicals	23.6	8.3	42.3	8.3	0.6	3.6	31.1	72.6	2.6	8.6
581	Plastic Materials	0.5	0.7	235.0	6.8	0.5	9.8	92.1	61.2	0.6	4.2
61	Leather, Dressed Fur, etc.	22.6	51.8	77.0	52.4	-	3.9	-	9.5	-	5.0
631	Veneers, Plywood, etc.	115.5	36.6	439.8	44.6	12.5	92.9	29.5	47.3	10.8	21.1
64	Paper, Paperboard and Manufactures	36.4	0.5	121.7	12.7	-	9.0	-	58.0	-	7.4
651.1	Silk Yarn and Thread	4.9	34.2	28.2	35.5	1.5	7.3	91.2	73.2	31.2	26.0
651.3	Grey Cotton Yarn in Bulk	10.9	99.7	79.8	89.1	2.8	19.2	26.0	27.0	25.9	24.0
651.6	Yarn of Synthetic Fibers	7.4	29.8	53.0	51.7	0.7	11.9	30.8	43.5	9.2	25.5
652	Cotton Fabrics Woven	30.1	45.3	303.7	57.9	1.8	35.3	13.2	20.1	6.0	11.6
653	Woven Textiles Noncotton	118.4	33.3	411.4	38.7	31.9	107.9	80.9	67.7	26.9	26.2
654	Lace Ribbons, Tulle	10.6	10.0	42.2	63.5	1.0	22.3	91.4	83.4	9.2	52.9
67	Iron and Steel	276.1	23.9	232.5	24.8	3.7	9.0	5.6	15.6	1.3	3.9
69	Metal Manufactures	71.0	3.6	154.4	17.4	0.3	13.2	10.9	49.2	0.4	8.6
71	Machinery, Nonelectric	1,262.5	0.3	1,818.2	3.1	0.3	12.8	7.4	22.7	-	0.7
724	Telecommunications Equipment including Radio and Broadcast Receivers	52.5	7.6	87.6	21.2	0.4	6.6	10.8	35.7	0.8	7.6
729	Electrical Machinery such as Batteries, Accumulators, Transistors, Automatic Equipment, etc.	290.2	7.3	473.1	19.0	4.6	36.6	21.7	40.7	1.6	7.7
84	Clothing	90.8	55.9	573.7	72.5	12.5	226.8	24.6	54.6	13.8	39.5
841.1	Textile Clothes not Knit	22.8	42.1	204.8	76.8	0.7	94.3	7.9	59.9	3.3	46.0
851	Footwear	79.8	23.0	56.1	60.0	0.3	18.3	14.9	54.3	3.4	32.6
89	Miscellaneous Manufactured Goods	313.6	11.0	866.9	14.6	8.3	42.0	24.0	33.2	2.6	4.8
Total Japanese Manufactured Imports /a		4,689.1	9.0	9,882.3	21.8	89.6	789.9	20.6	36.7	1.9	8.0

/a In SITC Categories 5-8 minus 68.

Source: UN Commodity Trade Statistics, 1970 and 1973, Statistical Papers, Series D Vol. XXIII, No. 1-24 and Vol. XX, No. 1-41.

1.16 In 1970, Korean exports to Japan in excess of $0.1 million in SITC 71, nonelectrical machinery, were drawn entirely from one SITC three-digit group, i.e. SITC 715. These consisted of exports of metal working machinery of various kinds. By 1973, exports in the broad group nonelectrical machinery comprised at least 5 different types of (three-digit category) machinery: nonelectrical power machinery (SITC 711), office machines (SITC 714), metal working machinery (SITC 715), textile and leather machinery (SITC 717), machines for special industries and other nonelectrical machinery (SITC 719) such as heating and cooling equipment, mechanical handling equipment, powered tools, etc. Moreover, even the export levels in the more detailed subcategories of machinery within each three-digit group had risen beyond the $0.1 million level. Similar developments are evident in the sphere of chemicals, wood and cork manufactures, paper products, textile yarns and fabrics, clothing and miscellaneous manufactures.

1.17 The trend towards diversification has been effected not only by the introduction of new commodity categories, but also by considerable maneuvering between commodity groups and markets. Indeed flexibility between commodity categories and geographical markets appears to have been responsible for Korea's extraordinary dynamism at the level of its aggregate export performance.

Flexibility Between Commodity Categories and Markets

1.18 Flexibility in the commodity sphere is evident in the rather sharp changes which have occurred in the relative importance of particular product types within broad groups of exports whose shares in total exports have remained relatively more stable in the period 1967-75. Table I.7 is illustrative of the changes in subgroup weights which have occurred between 1970 and 1974.

1.19 The pattern holds even in particular geographical markets. Nonelectrical machinery (SITC 71) exports to Japan are again a good example. In 1970, when the share of SITC 71 in total Korean manufactured exports to Japan was still negligible, almost 38% of all exports of nonelectrical machinery was composed of metal working machinery (SITC 715). By 1973, the share of the broad group SITC 71 had increased to almost 2% of total Japanese manufactured imports from Korea, but the composition of the group had changed radically. The share of SITC 715 had shrunk to 1% of the group's exports, while office machines (SITC 714) and other nonelectrical machinery (SITC 719) had expanded to contribute around 39% and 38% respectively of the group total. Thus, below the surface of the broad SITC one- or two-digit groups considerable fluctuations have occurred in the shares of the more disaggregate export groups to suit the changing tastes of particular markets.

1.20 Korean market penetration strategy has also been a combination of various measures: reliance on the two major partners has been coupled with a remarkable degree of flexibility, demonstrated by Korea's penetration into new geographic areas, and switches effected between its traditional trading partners. Table I.3 is illustrative of Korea's determined attempts to diversify out of the US and Japanese markets, particularly after 1973.

Table I.7: CHANGES IN PRODUCT COMPOSITION
(In $ million - current prices)

SITC Code-Export Group	Export Values 1970	Export Values 1974	% Share in Export Group 1970	% Share in Export Group 1974
I. 65 Textile yarn, fabrics, made-up articles and related products	84.9	492.6	100.0	100.0
Subgroups with increasing shares:				
6513 Cotton yarn and thread unbleached	1.1	60.0	1.3	12.5
6531 Silk fabrics	1.1	71.3	1.3	14.5
6535 Woven fabrics of synthetic fibers	10.0	109.0	11.8	21.7
Subgroups with declining shares				
6521 Cotton fabrics, woven, unbleached	17.6	44.5	20.7	9.0
657 Floor coverings, tapestries	4.8	14.8	5.7	3.0
II. 84 Clothing				
Subgroups with increasing shares				
84111 Men's and boy's outer garments	22.6	118.7	10.6	19.7
8413 Articles of apparel, and clothing of leather	3.0	69.2	1.4	7.2
Subgroup with declining share				
84129 Made-up accessories for articles of apparel	34.3	21.9	76.1	2.3
III. 72 Electric machinery (including electronics	43.9	474.2	100.0	100.0
Subgroups with constant or increasing shares				
7241 T.V. receivers and parts	0.1	37.4	-	7.9
7242 Radio receivers and parts	4.6	49.6	10.5	10.5
729 Telecommnications equipment	1.1	51.8	2.5	10.9
Subgroup with declining shares				
7293 Elements of semiconductors	28.7	242.7	65.4	51.2

Sources: (1) Korea Trade Association, Research Department.
(2) Department of Customs Administration. Statistical Yearbook of Foreign Trade, 1970, 1974.

The decline in the share of the US and Japan has been accompanied by significant export thrusts in Europe and the Middle East. Europe's share of Korea's exports has expanded from about 9% in 1970 to 18% in 1975. The Middle East has also emerged as an important market, with significant potential. In 1975, exports to the Middle East accounted for 6% of total Korean merchandise exports. It was also the scene of a rapidly growing volume of construction activity involving both Korean firms and labor.

1.21 That flexibility characterizes Korea's dependence on the US and Japan, each partner being separately considered, is also evident from Table I.3. Though the combined share of the US and Japan has shown reasonable constancy, particularly between 1967 and 1973, Korean exporters have not necessarily been tied to constant individual market shares. The Japanese share has fluctuated within a fairly wide band: between the 21% set in 1969 and the 39% attained in 1973. The 1973 performance is indeed particularly interesting. Though 1973 was not a poor growth year for the US, GDP rising by 5.7 percentage points, the Japanese market proved to be a major scene of Korean export expansion. Following the currency realignment and shifts in Japan's trade policy, Japan's imports increased by a record 44% in 1973; Korean exporters, poised to take advantage of attractive opportunities wherever they might occur, increased their exports to Japan by over 200%.

1.22 The process can be better understood if one looks at the behavior of the US share in Korean exports (of particular products) in conjunction with the movement of the Korean share of particular US imports, in 1973. It is apparent from Table I.8 that the US share in Korean exports declined over a wide range of commodities between 1970 and 1973: plywood, textile yarns and fabrics, cutlery and nonelectrical machinery are cases in point. However, a glance at the data on the Korean share in US imports reveals that it is precisely in these areas that Korean exports gained considerable ground between 1970 and 1973. Thus, the decline in the US shares in Korean exports when considered in isolation is apt to be a misleading indicator of Korean performance. Given the high growth rates registered in the US market on individual commodity fronts, and overall, in 1973, and given the remarkable gains in Japanese markets, the conclusion suggests itself that the declines in US market shares in Korean exports are therefore more a sign of flexibility and dynamism in the Korean case, than an indicator of passive accommodation to demand factors.

Market Limitations

1.23 The considerable maneuvering between product and geographical markets, however, raises certain suspicions about the possibility that Korea has perhaps already encountered market limitations in particular lines of export, whether traditional or nontraditional. The levels of the Korean shares in the US and Japan are reassuring (see Tables I.5 and I.6). Looking first at the traditional lines of export, Korean shares in the US do not yet appear to be a cause for worry. Setting aside the plywood share as being admittedly high already (42% in 1973), the Korean shares appear to have been around 11-12% only in transistors, valves, etc. and in clothing, and even in these fields Korean shares increased not insignificantly between 1970 and 1973.

Table I.8: SHARES OF THE US IN KOREAN EXPORTS AND KOREAN SHARES IN US IMPORTS OF SELECTED COMMODITY CATEGORIES

SITC	Description	US Share in Korea Exports 1967	1970	1973	1975	Korean Share of US Imports 1967	1970	1973
		(%)						
5	Chemicals	n.a.	2.1	7.0	9.4	-	-	0.1
54	Medicinal products	n.a.	2.1	n.a.	1.0	-	0.1	0.3
6	Basic manufactures	45.8	46.4	28.7	44.4	0.7	1.2	2.3
62	Rubber manufactures	16.0	24.4	34.4	11.1	0.2	0.2	1.2
631.2	Plywood	89.8	80.3	65.7	73.3	54.1	35.5	42.3
641.9	Bulk paper (other than printing & handmade paper, fireboard, etc.)	29.8	88.4	7.3	8.2	4.2	6.8	4.7
65	Textile yarns, fabrics	21.9	18.7	5.0	5.4	1.2	1.2	1.3
674	Iron, steel, universals, plates, sheets	n.a.	42.5	30.4	52.2	-	0.3	3.7
696	Cutlery	72.4	92.4	61.0	23.0	1.3	4.2	9.2
7	Machinery & transport equipment	39.2	59.8	52.9	36.3	0.1	0.3	0.8
71	Machinery, nonelectric	13.8	49.7	37.6	42.9	-	-	0.4
729.3	Transistors, valves, etc.	37.7	72.1	63.2	60.4	0.8	10.6	12.2
8	Miscellaneous manufactured goods	67.9	68.1	39.0	44.4	2.2	4.7	5.6
821	Furniture	82.2	74.6	35.5	8.2	-	0.1	1.3
831	Travel goods, handbags	n.a.	82.4	59.3	60.4	-	1.9	7.7
84	Clothing	56.8	61.4	32.5	21.7	4.4	9.3	11.3
841.4	Knit clothing & accessories	83.2	81.9	31.4	37.2	3.4	11.5	11.4
85	Footwear	89.6	81.1	55.0	61.1	2.7	2.1	5.7
86	Instruments, watches, clocks	38.1	17.3	12.5	27.6	-	0.1	0.3
89	Miscellaneous manufactures	88.4	79.7	51.9	50.6	2.2	4.8	4.0
Share of total selected commodities /a in total Korean manufactured exports /b		90.6	91.1	84.9	78.2			

/a The selected commodities refer to commodities below the one-digit aggregation level, i.e. they belong to SITC groups at the level of two digits or more.

/b Manufactured exports refer to exports in SITC groups 5-8 minus 68.

Source: (i) UN: Commodity Trade Statistics, 1967 and 1973, Statistical Papers, Series D. Vol. XXIII, No. 1-24 and Vol. XX, No. 1-41.
(ii) Department of Customs Administration: Statistical yearbook of Foreign Trade, 1970, 1975.

In the other traditional markets: textile yarns and footwear, the Korean share has generally been below the 6% level. In the Japanese market Korean shares have increased significantly between 1970 and 1973 and, with the exception of silk and grey cotton yarns, in all traditional products (certainly, in part, a response to the special circumstances prevailing in Japan in 1973), particularly in the areas of clothing, footwear, and electronics. Modest gains were also registered in miscellaneous manufactures. The levels of the "traditional" shares in Japan have, however, been much higher, e.g. over 30% in clothing and footwear and 20% in the textile yarns. As for the other new nontraditional markets, Korean shares in the US in 1973 were generally below the 5% level. In Japan, shares appear to have been generally below 10%.

1.24 To sum up, therefore, Korea may probably encounter some market limitations in a very few broad areas: plywood in the US and possibly clothing, footwear and yarns in Japan. In addition, if one were to delve deeper into very disaggregated levels of exports, one would probably find that Korea has already come up against market limitations in certain other disaggregate commodity areas. However, one would still on balance conclude that the problem was not overwhelming. The diversity of the Korean presence in the US and Japan, Korea's flexibility at the detailed commodity level, its ability to adapt product design, and indeed the very volatility of shares of particular products or countries in total exports from year to year, confirms that Korea has not become locked into inflexible product-country markets, that augar ill for future expansion.

1.25 Comfort can also be drawn, somewhat paradoxically, from the behavior of the Korean share in LDC exports to the US and Japan, when viewed against the backdrop of the LDC share in US and Japanese imports. In general, Korean exports bettered the LDC record between 1967 and 1973 (see Tables I.5 and I.6). The only commodities (apart from paper in the US and organic chemicals and plastics in Japan) in which Korean shares in LDC exports declined over the period were in the traditional areas of textile yarns and fabrics, clothing and miscellaneous products. The fact that the rise in the LDC shares in these products between 1970-73 were remarkable, despite the already high shares achieved by 1970, suggests that Korea may not be faced with limits to its exports even in traditional areas, unless quota restraints operate inflexibly. Scope still appears to exist for further intra-LDC competition. We shall examine this question in detail in Chapter 2.

2. THE PLAN'S EXPORT TARGETS

2.01 The Plan document lays down a 16% p.a. growth rate target for aggregate merchandise exports, in constant 1975 prices, for the period 1976-81, and a 16.5% growth rate target for manufactured exports. Merchandise exports are expected to total somewhat more than $14 billion in 1981 (at constant 1975 prices), while manufactured exports which probably constituted about 90% of total merchandise exports by 1976, are expected to contribute about 92% of aggregate merchandise exports or a level slightly in excess of $13 billion (in constant 1975 prices), by 1981. The Plan also sets out the expected commodity

structure and the degree of export dependence expected (manufactured exports preempting more than 27% of manufactured output in 1981 compared to around 23% in 1975), by the terminal year of the Plan. We shall examine the feasibility of these targets particularly in terms of the expected developments in world trade in manufactured goods, the growth prospects of Korea's major trading partners, prospects for competition from other LDCs, and the policy instruments considered appropriate and necessary for achieving these objectives.

The Feasibility of the FFYP Export Targets

Developments in World Trade in Manufactures

2.02 Korean export performance should really be judged in the context of the international trade in manufactured goods, since 84.9% of its exports in 1975 were manufactured goods. According to the World Bank's estimates, world trade in manufactures grew in real terms by 11% p.a. during 1965-75 when Korean manufactured exports grew at rates of around 33% p.a. in real terms. The Bank's projections assume that world trade in manufactures will grow at around 8.5% p.a., though it is worth noting that it is only during the last 25 years that world trade in manufactures has grown at a pace considerably faster than world production of manufactures.

Growth Prospects in the OECD Countries

2.03 In turn, the key assumption underlying the assessment of the likely trends in world trade in manufactures, concerns the growth rate considered feasible for the OECD over the period of the Plan. The Bank's current projections /1 peg the expected growth rate of the OECD over 1977-80 at around 4.6% p.a. This estimate appears to be only marginally lower than the growth rate attained in the period 1963-64 to 1973-74 (4.7% p.a.).

2.04 It is the US and Japanese growth rates, however, which are of the greatest importance for Korea's future export performance. For Korea, a quick crude check on the strength of the relationship between US and Japanese GDP growth and Korean exports yielded very interesting results. Regression equations were run to determine the effects on the exports of four major commodity groups, of (among other independent variables) a weighted sum of US and Japanese GDPs (which served as a proxy income variable). The results revealed income elasticities which were uniformly high (see Table I.9).

2.05 This suggests that US and Japanese growth will continue to be of considerable importance for the growth of Korean exports. Over the period

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/1 The Bank's 1976 projection for the OECD growth rate in 1976-80, was 5.2% p.a. The revised (February 1977) projections reflecting a more conservative assessment of growth potential, peg the OECD growth rate at 4.6% p.a. over the same period.

1963/64 to 1973/74, when Korean exports grew at real rates of around 34% p.a. the real GDP growth rate averaged around 4% in the US; the growth rate averaged in Japan was around 9.4% p.a. over the same period. The Bank's projections imply that in 1976-80 the US will grow at approximately 4.7% p.a., or at a rate somewhat higher than that achieved in the past. The Japanese growth rate which is projected to dip well below the historical growth rate achieved over the last decade, is expected to approximate only 6.4% p.a. On balance, however, and bearing in mind that the current projections of growth in the US, Japan and the OECD, are uniformly higher than in 1970-75 (during which period Korean export volume grew at 33% p.a.) it would appear that demand for Korean exports will be sufficiently buoyant for the Plan targets to be met.

Table I.9: SUMMARY OF RESULTS OF REGRESSION EQUATIONS /a FOR SELECTED KOREAN EXPORT GROUPS

Export groups	Price elasticity	Income elasticity	Adjusted R^2
Rubber, wood & cork	-0.452 (-0.9109)	7.5916 (18.3314)	0.901
Textiles, clothing & footwear	-1.2423 (-1.9555)	8.8083 (16.6138)	0.9774
Electrical machinery	-2.27142 (-2.296)	10.9153 (3.4423)	0.9355
Machinery, transport equipment, other than electrical	-2.2947 (-2.29)	2.707 (0.7895)	0.8095
Iron & steel	-4.066 (-3.9663)	-	0.6114

/a The form of the equation was as follows:

$$\log X = a + b \log \frac{(P_d)}{(P_f)} + c \log (Y)$$

Where X = Korean exports of particular commodity groups.

$\frac{P_d}{P_f}$ = Appropriate price relatives, incorporating international price indices and domestic price indices (e.g. GDP deflators for industry) for particular commodity groups.

Y = weighted average of US and Japanese GDPs.

The period covered was 1963-74.
The figures in parenthesis refer to t - statistics.

Quantitative Restrictions on Trade

2.06 Some caution regarding Korean (and LDC) prospects for growth stems from concern about the effects of the continuation (in certain cases, an increase or a new imposition) of quantitative restrictions on trade. The imposition of quotas, import licensing arrangements, and other restraints on LDC exports appears to be an important force inhibiting LDCs from taking advantage of the potential increase in demand for specific consumer goods, which is likely to obtain should the growth forecasts for the OECD mature.

2.07 Quotas and other restrictions imposed by the OECD countries on Korean exports have in certain cases been in operation for a number of years. The textiles agreements have recently been brought under the umbrella of the Multi-fibre Agreement, to bring them into conformity with the terms of this Agreement. Existing bilateral agreements have therefore either been altered to suit the Agreement's conditions or are still under scrutiny by the Textiles Surveillance Board.

2.08 The commodities which are generally covered by these restrictive agreements encompass a number of Korea's established exports. Restrictions on exorts of textile yarns, fabrics, garments and accessories of cotton, wool and man-made fibers are general. Sweden has restrictions on rubber boots. France and Denmark have additional restrictions on certain of Korea's non-traditional exports: radio receivers and chemicals in the case of France, for example, and flatware in the case of Denmark. The US is imposing new restrictions on footwear.

2.09 The restrictions have taken a number of forms: import licenses issued under bilateral agreement, which in turn were in conformity with the LTA (as in the case of Austria) voluntary quotas (established by bilateral agreement) to be applied by Korea on the exports of certain items (as for example the quotas on exports of shirts to Canada), and autonomous quotas imposed by the importing country either on the basis of past import figures as for example, the quotas on flatware, textiles and radio receivers.

2.10 While there is no doubt that Korean exports would have been higher but for these restrictions, it appears that Korean exorters have done rather well in maintaining exports in the face of such handicaps. They have been aided by the fact that the quotas/licenses/restraints are often specified not in monetary terms (as those imposed by France, Denmark and Norway) but in volume. This introduces some degree of elasticity to the potential earnings associated with the specified export volumes. Indeed, Korean exporters confirm that they have tried to circumvent the quota restrictions by moving out of low unit value items of textiles, garments or shoes into higher unit

value,/1 and higher unit profit items of clothing for example. Speciality garments, e.g., ski equipment or tenting outfits are being developed. In footwear, another example which is often proferred, new exports of canvas shoes, soccer boots, are being pushed instead of the more traditional rubber and leather products.

2.11 To sum up, the effects of trade restrictions and market limitations on Korean exports, are difficult to assess. The historical data which was analyzed in Chapter I, suggests that the problem is not yet serious at the one- or two-digit levels, but that certain market limits may exist in specific, very disaggregate product lines; plywood in the US, and various yarns and types of clothing in Japan are examples. Korean shares in Europe are still fairly small. Moreover, it is unlikely (except in footwear) that quantitative restrictions will be increased greatly, and there is even a prospect of some liberation following the Tokyo Round of Trade Negotiations.

2.12 The Tokyo Round of Trade Negotiations. The restrictions embodied in the current bilateral and multilateral arrangements pertaining to LDC exports in general, and to Korean exports in particular, may be mitigated to some extent by the trade liberalization measures which may result from the Tokyo Round of Trade Negotiations.

2.13 Much depends of course on the mix of products which are likely to be affected by the Tokyo Round and on the degree of overlap between these products and Korean exports. One estimate is that between three-fifths and

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/1 The evidence on unit values is somewhat hard to document on the basis of the trade statistics, since several forces have been concomitantly at work particularly in the textiles field over the last few years. First, the commodity categories listed in the trade statistics may still be fairly aggregative so that the trends in the unit value statistic at the group level may reflect compositional effects. It is evident from the Korean trade data that these effects could be very important, especially over the last quinquennial period, since the diversification of Korean exports at the detailed commodity level has been truly remarkable. Secondly, the last few years have seen large changes in productivity and capacity utilization particularly in the textile sectors and these changes may actually result in declines in unit values which differ between commodities. Here again the commodity group composition would exert an important influence on aggregative unit value trends. Third, importing countries have not always applied quota restrictions uniformly as between exporting LDCs, and this has resulted in some degree of price competition particularly in certain categories of textiles, as LDCs subject to quotas endeavored to maintain their relative market shares in the face of competition from countries with no trade barriers at all. Last, trade restrictions vary widely between imposing countries at the detailed commodity level, and a close look at unit values would require not only information on productivity and supply trends in Korea, but a very careful study of trends in unit values of disaggregated commodity exports into particular markets.

two-thirds of all potential LDC manufactured exports which were suppressed in 1971 through developed country tariffs and nontariff barriers consisted of textiles and clothing. In these sectors the priority target will be the elimination of the nontariff barriers embodied in the Multi-fibre Agreement which is due for renewal in 1977. However, elimination of quantitative restrictions on textiles is likely to be very gradual. Moreover, the Tokyo Round, even if completed in 1977, will not take full effect until 1980 at the very least. Nevertheless, one estimate is that should "the gains to LDCs from trade liberalization... be distributed much as LDC manufactured exports are now", about 90% would go to middle income countries, the bulk of which will again go to a handful of countries. Korea is not only an important member of this smaller subset of countries (the rest being Taiwan, Hong Kong, Yugoslavia, Brazil, Singapore and Mexico), but it is likely to continue to reap the benefits of trade liberalization in textiles and clothing even in the medium-term, because of the headstart it enjoys over the new entrants into the field: Turkey, Egypt, Colombia and Thailand.

LDC Performance in the Past, and Prospects for Competition

2.14 Confidence in the FFYP targets is further reinforced by the most recent World Bank projections /1 regarding manufactured exports from LDCs. Manufactured goods exports (defined as SITC 5-8 excluding 68) from developing countries showed an annual real increase of 15.8% during 1965-74, rising from $4.6 billion in 1965 to $32 billion in 1975 in current prices (see Table I.10), and it is now felt that if the middle-income countries are able to sustain their growth rates of manufactured exports in 1977-85 at around 15% p.a., the growth rate of total LDC manufactured exports could attain approximately the same rate, over the same period.

2.15 Korean performance in the past has been remarkable relative even to the LDC record. In 1968, Korea did not even rank among the first eight of the middle income LDC exporters. However, in the period 1965-71, Korea was certainly one of the fastest growing. Its rate of growth (42.6% p.a.) was second only to Taiwan's (43.6%), and in 1971-73, it followed the lead of Thailand and Malaysia (both with much lower manufactured export magnitudes), with a 76.2% rate of growth. By 1973, Korea had moved up from fourth place in 1965 to third with a total of$2,710 million in manufactured exports, compared to Taiwan's $3,674 million total. By 1975, though it was still about $1.6 billion behind Hong Kong, it was less than $200 million short of Taiwan's record, despite the intervening recession. It is not surprising to find, therefore, that the Korean share of developing country manufactured exports

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/1 The World Bank's original projections of LDC manufactured exports, had been set conservatively at 10% p.a. over 1977-85, in view of the pessimism regarding industrial country growth rates and the existence of QRs on exports. However, an appraisal of the data on the expansion of LDC exports in the first three quarters of 1976 (at a rate of 22% p.a., compared to the 16% p.a. which had previously been thought possible), has induced an upward revision to 15% p.a. for 1977-85.

had significantly increased over the period 1965-75, from around 2.3% to around 12.8%. In view of the fact that the LDC share in industrial countries' manufactured exports was only 7% in 1973, Korea's share in world exports in 1974-75 had probably risen to around 0.8-0.9%. Is this trend likely to continue, and is Korea likely to increase its share of LDC exports beyond the 16% it probably enjoyed in 1976?

Table I.10: MANUFACTURED EXPORTS FROM DEVELOPING COUNTRIES /a

Countries	Current Export Values ($ mill.)			Real Annual Growth Rates
	1965	1974	1975	1965-1974
Total developing countries	4,614	31,449	32,061	15.8
of which:				
Korea	104	3,775	4,134	19.6
India	809	2,038	2,232	3.8
Thailand	12	360	498	36.6
Hongkong	989	5,445	5,788	13.2
Taiwan	187	4,630	4,319	33.8
Singapore	300	2,317	2,234	17.5
Brazil	124	1,974	2,264	27.4
Colombia	34	344	275	12.2
Mexico	166	1,525	1,350	19.8
Yugoslavia	617	2,524	2,875	9.5
Turkey	11	360	380	38.0

/a Manufactured goods are defined as SITC categories 5-8 minus 68.

Source: IBRD.

2.16 Korea's chief competitors, especially in the US market are likely to be Brazil and Mexico, and indeed the World Bank's current forecasts for the export performance of the Latin American and Caribbean region assume that manufactured exports from both countries are likely to grow at rates well in excess of 10% per annum. Rapid growth is also anticipated from countries such as Turkey, Colombia, Thailand, the Philippines and Malaysia. However, in the case of all these countries, the export base in 1975 was relatively so much lower than Korea's that competition is not feared in the period of the Fourth Plan. Relative to Korea's export total for manufactured goods of $4,134 million, Brazil, the closest competitor among the identified countries had manufactured exports of only $2,264 million in 1975. The export totals of the remaining countries were well below the $1,000 million mark. Competition from India, a country with manufactured exports totalling over $2,232 million in 1975, is beginning to pick up since its export drive was initiated.

2.17 The People's Republic of China is mentioned more often as a potential competitor over the next few years particularly in the sphere of textiles and particularly with respect to the Japanese market. Upward trends in Chinese exports of textiles to Japan are sufficiently marked to cause some alarm in Korean trade circles. The Japanese trade figures for 1973 reveal that China's export total for textile yarns and fabrics was approximately two thirds that of Korea, that China was rapidly diversifying into various types of textiles and was actually ahead of Korea in a limited number of categories.

2.18 Korea's principal competitors now are Singapore, the Republic of China and Hong Kong. However, these countries are likely to move away from Korea's basket of exports, particularly as wages rise in these countries. Wage rates in the Republic of China were marginally higher than Korean wages in 1975 whereas wages in Hong Kong were at least 40% higher. Moreover, Korean productivity levels, especially in the traditional industries, compare very favorably with those in its competitor economies.

2.19 It is true, however, that the period of the FFYP is likely to be a testing time for Korea. Korean exporters have achieved a certain degree of success to date in the nontraditional areas as for example in machinery and equipment exports, by pursuing a determined policy of diversification: several new products have emerged in the list of Korean exports within the last five years. But in very few categories of machinery exports, does Korea display an overwhelming presence (in terms of absolute values of exports) in the roster of LDC exporters to industrialized countries. That role has been assumed by a somewhat close coterie of countries: Brazil, Hong Kong, Mexico, Singapore and Taiwan. The period of the FFYP is therefore likely to be crucial as a learning period necessary for garnering the technological maturity and skills which could enable it to enter the front ranks of the nontraditional, sophisticated product exporters.

The Policy Environment

2.20 To some extent, optimism regarding Korean ability to achieve Plan targets derives not only from the extraordinary drive and flexibility of Korean exporters themselves, but also from the Government's understanding of the need for policy which fosters such flexibility, and also from the overwhelming importance given to exports by economic decision makers. Annex B, while appraising the efficiency of the system, recounts in considerable detail the matrix of Government incentives and policies which have buttressed the Korean export structure. Here we shall merely describe its major features.

2.21 The main concern of the Korean Government has apparently been to institute a fairly broad range of incentive measures combined with exchange rate policy which raised the profitability of exports (relative to domestic sales), provided low protection to the domestic market and at the same time ensured exporters as reasonable an access to domestic and imported material inputs, as if they operated in a free trade area. These measures covered

rebates of indirect taxes and duties on inputs, subsidized credit and electricity, generous wastage allowances in the use of raw material imports free of import duties and indirect taxes, and the "export-import link" system which enabled exporters to import certain items which were not otherwise available for import. The level of these incentives were varied over time so that combined with changes in the nominal exchange rate, the real effective exchange rate for exports remained fairly stable even when the general price level rose faster in Korea than in its principal trading partners. The changes in the level of incentives was also motivated by a clear concern for efficient resource allocation, the exploration of comparative advantage, and the consequent preservation of the labor intensity of manufactured exports (relative to manufactured imports). This has been responsible for the Government's demonstrated flexibility in moving out of incentives (the removal of the export-import link system and the reduction of wastage allowances are cases in point) which were sometimes deemed to be unreasonably high.

2.22 Second, the Government has also demonstrated commendable foresight, particularly in the conditions of the boom of 1973 and the recession which followed the oil crisis of 1974, in stablizing and rationalizing industry, increasing capacity utilization, improving the financial position of business enterprises so as to encourage fixed investment, utilizing the banking system for financing the burden of accumulated inventories, and in 1976, in contending with inflation.

2.23 A third policy initiative has been the attempt to develop institutional arrangements for the marketing of traditional exports in bulk and for the provision in the future of engineering and after-sales services for technoligically sophisticated exports. In the case of Japan, general trading companies have played a unique role in the expansion of Japanese trade: in the period 1963-72, for example, the ten largest trading firms in Japanese trade handled as much as 50% of exports and 60% of imports./1 Trading companies have proliferated in Korea in the last few years enormously extending the range of commodities handled by each and also enlarging the ambit of export activity to cover medium and small enterprises particularly in areas such as miscellaneous manufactures, where scale factors do not necessarily dictate bulk production, but where marketing in bulk reduces overheads. However, the very proliferation of trading companies has threatened to introduce a degree of inefficiency into marketing operations and the Government has declared its intention of discouraging trading companies of uneconomic size. This is of particular importance for the development of trading houses which will undertake the sales, engineering, and servicing of machinery and equipment in overseas markets. Current plans regarding the development of trading companies, pitch the targeted share of these trading companies in Korean trade at around 21% by 1981.

/1 Lawrence B. Krause and Sueo Sekiguchi, Japan and the World Econmy, in Hugh Patrick and Henry Rosovsky eds. Asia's New Giant, The Brookings Institution, Washington, D.C., 1976, Table 6-3, page 392.

2.24 Another potential policy tool which might be used, though very selectively in the future, is that of foreign investment. Joint ventures do not appear to have played a significant role in Korean export strategy except perhaps in electronics. Over the period of the FFYP the role of joint ventures is likely to be important at the production end in certain selective fields, such as machinery and microintegrated circuitry. The provision of design, technology and the "learning function" are likely to be important criteria for the evaluation and choice of foreign joint ventures. The possible contribution of foreign partners in opening up new areas to Korean exports is as yet to be determined.

2.25 Almost more important than all these measures, has been the political commitment accorded to Korea's export goals. Government has sought not only to assist and promote exports but also to identify future opportunities, e.g., in steel and in shipbuilding. Then there is the considerable moral suasion which Government exercises in ensuring that exporters maximize exports. Targets for exports are specified in considerable detail, usually in consultation with the responsible manufacturers and traders' associations, and are monitored at the highest levels in the Government. It is this extraordinary devotion to export performance which enabled Korea to increase its export volume by an astonishing 20% under the adverse market conditions of 1975.

The Export Dependence of the Economy, and the "Vulnerability" Issue

2.26 While there is general optimism regarding Korea's ability to work towards the attainment of its export targets, some uneasiness can still be detected regarding the economy's continued (and increasing) reliance on exports and its consequent vulnerability to external shocks that lie outside its control.

The Export Dependence of the Economy

2.27 The central issue in the vulnerability debate concerns the export dependence of the economy. The indicator of export dependence that is generally used is the ratio of exports to GNP. In 1975, the ratio of commodity exports to GNP was 26.7%; using Plan projections, the ratio would rise to 42.3% by 1981. This should not be a source of concern. First, one should reiterate the vital role of exports in expanding demand. Given the limited size of the domestic market and the constraints on resources, it is only through export expansion that Korea can generate the increased production and employment that is needed during the Plan period. Second, exposure to international fluctuation implies benefiting from booms as well as suffering through recessions. Korea was quick in exploiting booms in 1969 and 1973 and was able to borrow its way through the 1974/75 recession without sacrificing much growth. Despite the heavy borrowing, the debt service burden has not been excessive and is now declining. Unless there are arbitrary constraints on the availability of capital in years of international recession, the indications are that Korea should be able to weather future recessions as well, particularly as there is increased diversification of the composition and markets of Korean exports.

2.28 Third, comparing gross exports to GNP, which is a value-added concept, is not strictly correct; nor does it present an adequate picture of vulnerability in the absence of any reference to the extent of the economy's associated import dependence.

2.29 Three concepts more appropriate than the above, would be the following:

(a) the ratio of manufactured exports to manufactured output;/1

(b) the ratio of value added in manufactured exports to value-added in manufacturing as a whole. However, data on the value-added in manufactured exports cannot be derived from independent data. It can of course be assumed as a rough approximation, that the value-added content of export activity in manufacturing is equivalent to the value-added content in manufacturing activity as a whole. In this case (b) reduces to (a);/2 and

(c) the ratio of value-added in manufactured exports to GNP./3

2.30 Here again, because of the manner in which the value-added content of exports is derived, (c) is found to be a composite of two ratios: (i) the ratio of manufactured exports to manufactured output; and (ii) the share of manufacturing value-added in GNP.

2.31 The critical ratio therefore appears to be the ratio of value-added in manufactured exports to value-added in manufacturing, or its equivalent, the ratio of manufactured exports to manufactured output. This latter ratio

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/1 Since manufactured exports have comprised more than 85% of total exports since 1970 and the share is likely to rise further to around 92% by 1981, most of the following discussion on the export dependence of the economy is couched in terms of indicators which pertain to the manufacturing sector.

/2

$$\frac{\text{Value-Added in Manufactured Exports}}{\text{Value-Added in Manufacturing}} = \frac{\text{Value-Added in Manufacturing}}{\text{Manufacturing Output}} \quad \frac{\text{Manufactured Exports}}{\text{Value-Added in Manufacturing}}$$

$$= \frac{\text{Manufactured Exports}}{\text{Manufacturing Output}}$$

/3 From /2 above it follows that:

$$\frac{\text{Value-Added in Manufactured Exports}}{\text{GNP}} = \frac{\text{Manufactured Exports}}{\text{Manufacturing Output}} \times \frac{\text{Value-Added in Manufacturing}}{\text{GNP}}$$

was estimated at around 23% in 1975,/1 is expected to have been 26% in 1976 and is estimated to be between 27-31% by 1981./2 This level of export dependence does not seem excessive.

Limited Trading Partners

2.32 Another set of issues concerns Korea's alleged over-dependence on a very limited number of destinations and sources for its exports and imports respectively. Even during 1975, the US and Japan absorbed over 55% of total exports. However, as we have seen in Chapter I, Korea is not locked into a particular geographical market-cum-product arrangement in the export sphere since there is considerable variability in the shares of the US or Japan in Korean exports of particular product categories from year to year.

2.33 Moreover, in order to establish the case regarding Korea's vulnerability to developments in these two major markets, it is not enough to point out for example, that the US share in the exports of particular export products or product groups is very high. This may indeed be the case, but this conveys a very misleading impression. It is necessary to establish also that the product which exhibits a high US share (in Korean exports) also constitutes a high share of total Korean manufactured exports. There is one other pitfall to be avoided. It is not enough again to look at the data for broad aggregate groups. Consider the following three aggregate groups: SITC 6, basic manufactures, SITC 7, machinery and transport equipment and SITC 8, miscellaneous manufactured products. The US share in Korean exports (see Table I.11) in all three groups was high in 1975 (44%, 43% and 44% respectively). Each of these groups also constituted high shares in total Korean manufactured exports (36%, 17% and 46%) in 1975. However, the number of products, within each of these groups, for which both the US share (in Korean exports) and the product share (in Korean exports of manufacturing) were high were very few indeed. Knit accessories and clothing, and plywood were two obvious candidates. In knit clothing and accessories the US absorbed around 37% of Korean exports, and the product constituted about 12% of total Korean manufactured exports. Plywood was a borderline case. In 1975, the US share in Korean plywood exports was 73% but the product's share in total Korean manufactured exports was only 5%. Again, within the rubric of textile yarns and fabrics, SITC 65, which exhibits alarmingly high US and product shares, one finds at the detailed product level that where the product share is high, the US share is relatively low, or vice versa. Therefore, were the US to switch out of product categories where its shares were high, the low product share in Korean manufactured exports would imply that the impact on Korean earnings from exports of manufactures would in most cases not be more than about 2-3% of total manufactured exports.

/1 Based on the revised estimates of national income, January 1977.

/2 The uncertainty surrounding the 1981 target stems from the fact that base data for manufacturing output in 1976, is not yet available. The estimate of 31% was used in the July 1976 draft of the FFYP.

Table I.11: SHARE OF THE US IN KOREAN EXPORTS OF SELECTED COMMODITY CATEGORIES, AND THE RELATIVE WEIGHT OF EACH SELECTED COMMODITY CATEGORY IN TOTAL MANUFACTURED EXPORTS

SITC	Description	US Share in Korean Exports (in percent) 1967	1970	1973	1975	Relative Weight of Each Commodity in total Korean Manufactured Exports (in percent) 1967	1970	1973	1975
5	Chemicals	n.a.	2.1	7.0	9.4	1.1	1.8	1.8	1.8
54	Medicinal products	n.a.	2.1	n.a.	1.0	0.1	0.2	0.2	0.2
6	Basic manufactures	45.8	46.4	28.7	44.4	47.5	34.5	40.6	35.9
62	Rubber manufactures	16.0	24.4	34.4	11.1	1.0	0.6	0.8	2.2
631.2	Plywood	89.8	80.3	65.7	73.3	17.1	14.3	10.1	5.0
641.9	Bulk paper (other than printing and handmade paper, fireboard, etc.)	29.8	88.4	7.3	8.1	0.8	-	0.1	0.1
65	Textile yarns, fabrics	21.9	18.7	5.0	5.4	23.0	13.3	16.1	15.7
674	Iron steel, universals, plates, sheets	n.a.	42.5	30.4	52.2	0.5	1.2	4.8	1.8
696	Cutlery	72.4	92.4	61.0	23.0	0.3	0.7	0.8	0.8
7	Machinery and transport equipment	39.2	59.8	52.9	36.3	6.6	9.6	14.6	17.0
71	Machinery, nonelectric	13.8	49.7	37.6	42.9	1.9	1.3	2.1	1.9
729.3	Transistors, valves, etc.	37.7	72.1	63.2	60.4	0.7	4.5	6.7	5.0
8	Miscellaneous manufactured goods	67.9	68.1	39.0	44.4	45.6	55.0	43.3	45.5
821	Furniture	82.2	74.6	35.5	58.2	0.1	0.3	0.6	0.3
831	Travel goods, handbags	n.a.	82.4	59.3	60.4	0.6	0.4	1.2	1.9
84	Clothing	56.8	61.4	32.5	21.7	27.7	33.3	27.8	27.8
841.4	Knit clothing and accessories	83.2	81.9	31.4	37.2	10.9	13.9	11.6	11.7
85	Footwear	89.6	81.1	55.0	61.1	3.8	2.7	3.9	4.6
86	Instruments, watches, clocks	38.1	17.3	12.5	27.6	0.3	0.5	0.8	1.7
89	Miscellaneous manufactures	88.4	79.7	51.9	50.6	12.9	17.8	9.0	9.3
Share of Total Selected Commodities /a in Total Manufactured Exports /b						90.6 (66.3) /c	91.1 (76.7) /c	84.9 (84.0) /c	78.2 (81.4) /c

/a The Selected Commodities refer to Commodities below the one-digit aggregation level, i.e. they belong to SITC groups at the level of two digits or more.

/b Manufactured Exports refer to exports in SITC groups 5-8 minus 68.

/c The figures in parenthesis refer to the share of Korean Manufactured Exports in total Korean exports.

Source: (i) UN: Commodity Trade Statistics, 1967 and 1973, Statistical Papers, Series D, Vol. XXIII, No. 1-24 and Vol. XX, No. 1-41.
(ii) Department of Customs Administration: Statistical Yearbook of Foreign Trade, 1970, 1975.

2.34 A related issue concerns the economy's dependence on a very restricted range of import suppliers. As in the case of exports, Korea relies on two major trading partners, the US and Japan, but in the case of imports, the US and Japan still accounted for more than two thirds of all Korean imports even in 1972, the year when the combined share of the two countries was lowest over the whole of the period 1965-74 (see Table I.3). Further, the high degree of dependence on the US and Japan at the aggregate level appears to be accompanied by a high degree of dependence at the specific commodity level. The Korean government's cognisance of this issue, lies behind its attempts to diversify production (through import substitution) into a wide range of intermediates, and it is also responsible for its recent attempts to diversify its sources of supply. These attempts are to be continued during the course of the FFYP.

Table I.12: SHARES OF US AND JAPAN IN TOTAL KOREAN IMPORTS

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
US	39.3	35.4	30.6	30.7	29.1	29.5	28.3	25.7	28.3	24.9	25.9
Japan	36.0	41.0	44.5	42.7	41.3	30.8	39.8	40.9	40.7	52.8	33.5
US & Japan	75.3	76.4	75.1	73.4	70.4	70.3	68.1	66.6	69.0	77.6	59.4

Source: BOK: Economic Statistics Yearbook, various issues.

3. IMPORTS: GROWTH AND STRUCTURAL CHANGE

3.01 Exports have appeared to occupy center stage in the process of economic expansion in Korea since the early sixties. Nevertheless, selective import substitution, undertaken in response to the exigencies of changing international conditions, and growing domestic demand, has played an important part in the evolution of Korea's industrial strategy.

3.02 The beginnings of rapid growth in Korea can be traced back to 1963. By this time, the economy had already embarked on a strategy of selective import substitution particularly in the areas of light manufactures and non-durable consumer goods, cement and chemical fertilizers. The year 1966, however marked a turning point in the behaviour of imports. The share of imports in GNP jumped from about 17% to 20% in current prices and continued to rise thereafter. The continuing rise was partly due to changes in government exchange rate policy, but also due to circumstances which affected the production structure. On the agricultural front, the disastrous harvests of 1967 and 1968, the declines in sown area and the cropping intensity, and the expansion of domestic demand, resulted in a surge of foodgrain imports. On the industrial front, the very rise in the share of the industrial sector, and particularly of export activity in GNP,/1 contributed to the expansion of

/1 The share of industry and exports in GNP began to rise continuously, in constant 1970 prices, particularly after 1965.

the import bill. Beginning in 1966, there was a sharp escalation of capital goods imports and of imports of raw materials for export activities. The shares of imports of wood, raw cotton, textile yarn and thread and of iron and steel in the total were particularly high in the period 1966-69, and their rising absolute amounts also pushed up the import totals throughout the period. The government's response was to emphasize import substitution as a means of curbing balance of payments pressure. In the latter half of the Second Plan the construction of a medium-sized petrochemical complex was initiated, as well as the setting up and subsequent expansion of a large integrated steel mill. The Third Plan continued the Second Plan's efforts at import substitution in intermediate products, and also made strides in domestic capital goods production. New product lines were introduced in synthetic fibers and plastics, electrical machinery and electronics products, and transport equipment, particularly in shipbuilding.

3.03 Nevertheless the import dependence of the economy has grown, bolstered to a large degree by the steadily rising trend in the raw material requirements for exports, and to a somewhat lesser extent by the sustained dependence of Korean growth efforts on imports of capital goods. According to the FFYP's estimates, the direct import content of exports, measured by the ratio of raw materials imported for use in export activity (as registered by the Customs Office), to total imports has been rising almost continuously since 1965. The ratio which was 5.9% in 1965 rose to 41% in 1972, to a further high point of 47.8% in the boom year of 1973 and fell slightly to between 44% and 45% in 1974-75. These import content figures may in fact understate the true nature of the dependence of export production on imported inputs since the customs data generally take account only of imports directly required for export activities and not of imported inputs required to produce domestically supplied inputs for export activity. Moreover, this omission is likely to affect not only the levels of the raw material imports for export, but also their rate of increase since there is some ground for belief that the indirect import content of exports has been on the rise since 1960 (see Annex B, Chapter 1).

3.04 As for capital goods imports (SITC 7), they have been growing at real rates of growth of around 12% p.a. over the recent period 1970-75, despite the impact of the international recession on the Korean economy in 1974-75, and it appears likely, notwithstanding the import substitution goals implied in the FFYP, that the import growth rate for capital goods will rise above these levels for the period 1975-81. However, one qualification needs to be made. The statistics on capital goods imports are overstated by an amount equal to the value of those parts and components registered under the rubric of capital goods (SITC 7) which are also used in the manufacture of export goods. Since it is difficult to estimate the importance of this category in total capital goods imports, it is not possible to identify even the direction of bias in the estimate of the rate of growth of these imports.

3.05 Overall, the FFYP's import substitution strategy has been based on a fairly realistic assessment of import substitution possibilities in the manufacturing sector. During the Second and Third Plans, selective import substitution was undertaken in a number of sectors eg. in textiles, backward integration occurred through synthetics to petrochemicals, and in automobile

production, backward again to the production of components. The 1973 EPB long term plan argued for an acceleration of this import substitution drive, by suggesting the need for a rapid development of the heavy and chemical industries. The FFYP modified the EPB's 1973 stance, by taking as its starting point the idea that Korea's comparative advantage currently lies not in the export of basic metal and chemical products, but in the production and export of skill intensive machinery and equipment. It also based this judgment on a more realistic assessment of both the availability of investment finance, and of the scale factor in the metals and chemicals sectors. Moreover, there is reason to believe that it is precisely in certain of the machinery areas that the internal market will, during the FFYP period, grow large enough for the combined domestic and export demand to support viable scales of production. These issues are discussed more fully in Annex B.

Growth and Structural Change

3.06 The broad patterns which are discernible in the historical data on Korean imports, for the period 1965-75, concern trends in the aggregate rate of growth of imports, the structural composition of imports, and the behaviour of the primary determinants of each of the major import categories.

(a) The Aggregate Growth Rate of Imports

3.07 The first major conclusion which emerges from a perusal of the historical data, relates to the high aggregate growth rate of import values over the whole period 1965-75, despite considerable variability from year to year. In terms of volume, the experience has been sharply dissimilar between the two subperiods 1965-70, and 1970-75 (see Table I.13).

3.08 In 1965-70 the growth rate averaged 34% p.a.; during the latter half of the decade the growth rate of import volume dropped to 11%, reflecting largely the Government's determined efforts to hold down import volumes in 1974 and 1975. (The average growth rate in those two years amounted to less than 4% p.a.)

(b) The Structure of Imports

3.09 Trends in the behavior of imports can be better analyzed if we decompose total imports into its major components, and focus on the critical determinants of each category of imports. Here we follow the Korean practice of dividing total imports into five broad commodity groups: capital goods, petroleum and petroleum products, grain, raw material imports for export and a residual category, "other imports", consisting of consumer goods, raw materials and intermediate goods for domestic use (see Table I.14).

(i) Grain Imports.

3.10 Grain imports constituted less than 9% of total Korean imports during 1966-68, rose to 12-13% of the total during 1969-72, but were held down following two years of generally good rice and barley harvests to less than 10% during 1973-75, notwithstanding the sharp increases in international grain prices in 1973 and 1974 (see Table I.15).

Table I.13: TRENDS IN TOTAL IMPORTS 1965-75
(In million $)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	Annual Compound Rate of Growth (%) 1965-70	1970-75
Total commodity imports, current values	463	716	996	1,468	1,824	1,984	2,394	2,522	4,240	6,852	7,274	-	-
Annual growth rate of current values of total commodity imports	-	546	39.1	47.4	24.3	8.8	20.7	5.3	68.1	61.6	6.2	33.8	29.6
Total commodity imports at 1975 prices	1,001	1,582	2,180	3,241	4,089	4,294	5,205	5,389	6,785	7,049	7,274	-	-
Annual growth rate of total commodity imports valued at 1975 prices	-	58.0	37.8	48.7	26.2	5.0	21.2	3.5	25.9	3.9	3.2	33.8	11.1
Unit value index (1975=100)	46.3	45.3	45.7	45.3	44.6	46.2	46.0	46.8	62.5	97.2	100.0	-	-

Source: Department of Customs Administration, Statistical Yearbook of Foreign Trade, various issues.

Table I.14: COMMODITY IMPORTS BY END USE: ABSOLUTE VALUES AND RATES OF GROWTH
(In million dollars)

	Current Values			Real Values (1975=100)			Annual Compound Rates of Growth, % p.a.			
							Current Values		Real Values	
	1965	1970	1975	1965	1970	1975	1965-70	1970-75	1965-70	1970-75
Capital goods /b	73.5	589.5	1,909.2	149.7	1,073.8	1,909.2	51.6	26.5	48.3	12.2
Petroleum and petroleum products /c	28.9	132.9	1,339.3	125.7	781.8	1,339.3	35.6	56.1	44.1	11.4
Grain /d	54.4	244.8	689.1	129.0	572.8	689.1	35.1	23.0	34.8	3.8
Raw materials for export /e	10.4	386.3	2,180.0	19.6	691.1	2,180.0	/a	41.1	/a	25.8
Other imports /f	296.2	630.5	1,156.8	576.9	1,174.8	1,156.8	16.3	12.9	15.3	-0.5
Total goods c.i.f.	463.4	1,984.0	7,274.4	1,000.9	4,294.3	7,274.4	33.8	29.6	33.8	11.1

/a More than 100% per annum.

/b SITC 7; price index for capital goods imports obtained from IBRD.

/c SITC 33; price index for 1968-74 obtained from Bank of Korea; for remaining years, calculated from price and quantity data obtained from source below.

/d SITC 04; price index calculated from price and quantity data for individual foodgrain imports, obtained from source below.

/e Current value data listed separately in source below. Price index obtained as a weighted index of various raw material import price indices obtained from Bank of Korea: Economic Statistics Yearbook, various issues.

/f Derived as a residual.

Source: Department of Customs Administration, Statistical Yearbook of Foreign Trade, various issues.

Table I.15: GRAIN PRODUCTION, IMPORTS, SELF-SUFFICIENCY, AND THE SHARE OF GRAIN IMPORTS IN TOTAL IMPORTS

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Production ('000 mt)	7,005	7,568	6,836	6,856	7,737	7,476	7,274	7,207	7,163	7,304
Imports /a ('000 mt)	634	525	1,100	1,496	2,389	2,115	2,883	3,210	3,271	2,732
% Self-sufficiency /b	92	94	86	82	76	78	72	69	69	74
Share of grain imports in total imports	11.7	8.5	7.7	8.8	13.7	12.3	12.7	11.2	10.5	8.9

/a Imports cover rice, barley, wheat, corn and soyabean.

/b Defined as the ratio of production to the sum of production and imports.

Source: Foodgrain Division, MAF, and Bank of Korea, Economic Statistics Yearbook, 1965-76.

3.11 Trends in grain imports reflect the continuing struggle of Korean agriculture to keep pace with the rising demand for food. Over the period 1965-70, grain imports maintained a growth rate of close to 35% p.a., the volume of grain imports increasing from 0.6 million mt in 1965 to around 2.0 million mt in 1970. However, in the period 1970-75, the growth rate of grain import volume dropped to about 4% p.a., reflecting the success of the Government's efforts at increased grain production. Grain imports, which averaged around 2.9 million mt in 1971-72, fell to 2.4 million mt in 1974-75, and have probably dropped further during 1976. Thus, the grain self-sufficiency index will probably not have deteriorated much over the period of the Third Plan.

3.12 The major feature of the changes in the pattern of grain demand over the last decade has been the shift toward the increased consumption of rice and wheat, relative to barley. This and the increase in total grain consumption at the rate of about 5.6% p.a. in the period 1965-74, is a reflection of the rapid shifts which have been occurring in the Korean economy: in 1970 prices, the economy has grown at around 11% p.a. between 1965-75, per capita income has increased at around 8% p.a., while population has grown at around 2.2% p.a. over the same period. At the domestic supply end, the physical output of the principal grains, rice and barley, remained fairly constant at 6.0 million mt from about 1968 until 1974; between 1974 and 1975, the output of rice and barley grew by 8.3% p.a. and 4.1% p.a. respectively due partly to favorable weather conditions, as well as to the fruition of investments in agriculture. Wheat continues to be an uneconomical crop in Korea because its growing season is too long and interferes with double cropping cycles.

3.13 Wheat imports have therefore constituted the largest item in the grain import bill since 1966, the only exceptional years being 1969-71 when rice imports took precedence (see Table I.16). The share of wheat imports declined gradually from levels of around 60% in 1966 to about 38% in 1971, but have been rising gradually since then. The share of rice imports which was unusually high in 1969, following the two bad years 1967 and 1968, continued at rather high levels in the period 1969-71, despite the modest recovery in total production. The pattern of barley imports has been fairly uneven till 1971. However, particularly since the institution of the GMF and the encouragement of barley consumption in the form of a rice-barley mixture, the production of barley has failed to keep pace with consumption, thereby inducing imports. Other grain imports have generally continued at well over 10% since 1969. The share of wheat flour has gradually dropped, import values remaining well below $4 million since 1973. However, the share of maize imports (used for feed purposes) in the category of other grains has risen to over 60%, primarily due to the expansion of the pig population, poultry production and the initiation of pork exports, as well as to the high prices of imported feed.

3.14 The structure of grain imports (including feedgrain imports) has been as follows:

Table I.16: VALUE OF SPECIFIC GRAIN IMPORTS (IN MILLION DOLLARS), AND SHARES IN TOTAL GRAIN IMPORTS (%), 1966-75

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Rice	3.1	24.9	43.3	120.5	145.4	150.2	103.0	84.0	153.1	195.1
	(5)	(33)	(33)	(48)	(59)	(49)	(36)	(19)	(25)	(28)
Barley	0.7	0.3	11.8	7.5	1.0	4.2	22.1	54.2	84.5	106.6
	(-)	(-)	(8)	(3)	(-)	(1)	(9)	(11)	(12)	(16)
Wheat	40.5	46.3	62.8	90.3	79.5	115.1	128.1	225.4	297.6	293.7
	(66)	(60)	(49)	(36)	(32)	(38)	(45)	(52)	(49)	(43)
Others /a	17.0	5.1	11.4	32.0	18.9	34.6	29.5	80.5	77.9	101.2
	(28)	(7)	(9)	(13)	(8)	(11)	(10)	(18)	(13)	(15)
Total	61.3	76.6	129.3	150.3	244.8	304.1	282.7	444.1	613.1	689.1
	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)

/a Other grain imports include flour of wheat, maize etc.

Note: The figures in brackets denote shares of each grain in the total value of grain imports.

Source: Statistical Appendix, Table 3.7.

(ii) Imports of Petroleum and Petroleum Products

3.15 Imports of crude oil and petroleum products were not very large up until 1973 though the volume of petroleum product imports grew more than ten-fold during 1965-73 (see Table I.17).

3.16 The petroleum bill in 1975 stood at $1.3 billion, more than $1.0 billion higher than it had been two years before, while the share of imports of petroleum and petroleum products in total imports was about 18% in 1975. The period 1970-74, however, has been one of considerable restraint: the volume of petroleum imports expanding at an average rate of only about 9% p.a., which represented a substantial drop from the approximately 44% growth rate maintained in the previous five-year period 1965-70. It is interesting to note, however, that in 1975, the volume of petroleum imports expanded at an average rate of about 21% p.a. while data relating to the first ten months of 1976 (relative to the same period in 1975) indicate a 25% increase in import volume.

Table I.17: IMPORTS OF PETROLEUM AND PETROLEUM PRODUCTS 1965-75
(in million dollars)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
(1) Value of imports of petroleum and petroleum products in current prices	29	41	59	73	108	133	187	218	296	1,020	1,339
Of which:											
(2) Value of crude oil imports	28	30	38	58	100	125	174	206	277	966	1,271
(3) Imports of petroleum and petroleum products, in 1975 prices.	126	231	300	470	668	782	969	1,062	1,190	1,105	1,339
Annual Growth Rates in %:											
(1)	-	41.3	43.9	23.7	47.9	23.1	40.6	16.6	35.8	244.6	31.3
(2)	-	7.1	26.7	52.6	72.4	25.0	39.2	18.4	34.5	248.7	31.6
(3)	-	83.3	29.9	56.7	42.1	17.1	23.9	9.6	12.1	7.1	21.2

Source: Bank of Korea: Economic Statistics Yearbook, various issues.

3.17 Though information on the actual structure of petroleum demand in Korea is not readily available, the Mission was able with the help of the MCI, to arrive at an estimate of this structure, by sector of end-use.

Table I.18: STRUCTURE OF PETROLEUM CONSUMPTION BY END USE SECTOR (Fuel Only)

	1966		1974		Average Annual Compound Rate of Growth
	'000 TOE	%	'000 TOE	%	
Power Generation	164	9.1	2,932	27.5	43.4
Industry	640	35.5	4,146	38.9	26.3
Transportation	583	32.3	2,051	19.2	17.0
Residential/ Commercial	75	4.2	935	8.8	37.0
Others	340	18.9	594	5.6	25.0
Total	1,802	100.0	10,658	100.0	25.0

Source: Annex E, Table 16, based on MCI data.

3.18 The most important sectoral increases in petroleum use, reflected in high average rates of growth between 1966 and 1974, occurred in power generation activities, and in residential/commercial use. This was primarily due to the substitution of heavy fuel oil for coal in power generation, and to the development of modern housing units, using fuel oil for heating purposes. Unlike most other countries, the demand for petroleum for use in transportation, grew at a much lower rate than the average for total petroleum demand, primarily because private car ownership has been heavily discouraged in Korea (only 50% of Korea's 200,000 road transport vehicles are privately owned), and gasoline prices have been kept at high levels. Industrial demand for petroleum (with a growth rate of around 26% p.a.), appears to have grown faster than the output of the combined mining, manufacturing and construction sector (around 19.8% p.a. in 1966-74). This appears to have been due to the decline in coal use, and the structural shifts in the composition of industry with the development of the energy intensive manufacturing sectors such as metals, chemicals and construction materials.

3.19 (iii) Capital Goods Imports averaged around 29% of total imports (in current prices) in the 1965-70 period, and around 26% in 1970-75. The behavior of the group has, however, been somewhat erratic. The growth rate in 1975 prices fell from 48% p.a. in the 1965-70 period to around 12% p.a. during the last five years (see Table I.19).

Table I.19: TRENDS IN CAPITAL GOODS IMPORTS: CURRENT AND REAL ANNUAL GROWTH RATES AND SHARES IN TOTAL IMPORTS

	1965	1966	1967	19[illegible]	1969	1970	1971	1972	1973	1974	1975
Capital goods imports /a Current values in million dollars	73.1	171.7	310.2	533.0	593.2	589.5	685.4	761.8	1,156.8	1,848.6	1,909.2
Current annual rate of growth (%)	-	134.9	80.7	71.8	11.3	-0.6	16.3	11.1	51.9	59.8	3.3
Price index: 1975=100 /b	49.1	50.0	50.4	49.7	51.4	54.9	58.7	64.9	74.7	85.2	100.0
Capital goods imports (in 1975 prices, in million dollars)	149.7	343.4	615.5	1,072.4	[illegible] 54.1	1,073.8	1,167.6	1,173.8	1,548.6	2,169.7	1,909.2
Real annual rate of growth (%)	-	129.4	79.2	74.2	7.6	-7.9	8.7	0.5	31.9	40.1	12.1
Share of capital goods imports in total Korean imports in current prices (%)	15.7	23.9	31.1	36.4	32.5	29.7	28.6	30.2	27.2	26.9	26.2

/a Defined as imports listed under SITC-7 in the Statistical Yearbook of Foreign Trade.

/b IBRD.

Source: The Department of Customs Administration, The Statistical Yearbook of Foreign Trade, annual issues, 1965-75.

Table I.20: SHARE OF CAPITAL GOODS IMPORTS IN GROSS DOMESTIC FIXED CAPITAL FORMATION

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
1. Capital Goods Imports in 1975 prices (in million dollars)	149.7	343.4	615.5	1,072.4	1,154.1	1,073.8	1,167.6	1,173.8	1,548.6	2,169.7	1,909.2
2. Gross Domestic Fixed Capital Formation in 1975 prices (in million dollars)	909.4	1,386.4	1,678.4	2,298.8	2,982.8	3,053.2	3,180.8	3,035.9	3,916.1	4,265.8	4,791.0
3. Ratio of Capital Goods Imports to Gross Domestic Fixed Capital Formation (%)	16.5	24.8	36.7	46.7	38.7	35.2	36.7	38.7	39.5	50.9	39.8

Source: The Department of Customs Administration, The Statistical Yearbook of Foreign Trade, various issues, and Bank of Korea, Economic Statistics Yearbook, various issues.

Table I.21: TRENDS IN CAPITAL GOODS IMPORTS AND IN DOMESTIC DEMAND FOR MACHINERY
(in million dollars)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Output of the Machinery Sector in 1970 prices	200.8	258.8	342.8	453.3	593.7	581.4	613.3	705.6	1,203.6	2,865.6	2,020.1
Exports of Machinery /a in 1970 prices	6.4	5.9	14.5	24.3	55.5	61.5	88.5	171.8	313.0	419.7	473.1
Imports of Machinery /b in 1970 prices	73.0	175.4	314.0	544.4	61.47	589.5	688.2	752.0	855.6	879.0	882.7
Domestic Demand for Machinery /c in 1970 prices	267.4	428.3	642.3	973.4	1,153.6	1,109.4	1,213.0	1,285.8	1,773.2	2,324.9	2,429.7
Ratio of Capital Goods Imports to Domestic Demand for Machinery	27.3	41.0	48.9	55.9	53.3	53.1	56.7	58.5	48.3	49.6	36.3

/a Consists of Machinery (nonelectrical), Electrical Machinery, and Transport Equipment.

/b Price Index used was the Unit Value Index.

/c Import Price Index: Import Price Index constructed by IBRD.

Source: Statistical Appendix, Table 8.3; Bank of Korea, Economic Statistics Yearbook, various issues.

3.20 It is generally accepted by Korean planners that the major determinant of capital goods imports is the pattern of domestic fixed capital formation. The ratio of capital goods imports to gross domestic fixed capital formation has averaged about 40% since 1968 (see Table I.20). This would suggest that the decline in the import growth rate of capital goods was due more to a slowdown in the rate of growth of domestic capital formation than to the greater domestic production of capital goods.

3.21 However, a better indicator of the behavior of capital goods imports is the ratio of these imports to total domestic demand for machinery. The total domestic demand for machinery captures both the demand for finished capital goods as well as for components and parts while trends in gross domestic fixed capital formation are likely to capture trends in the demand for finished investment goods only. It is likely that with the expansion of the Korean machinery sector, the demand for imported parts and components will be on the increase. Table I.21, which illustrates the trends in this indicator, does provide some evidence of an increased reliance on the domestic production of machinery subsequent to 1972.

(iv) Raw Material Imports for Export, and "Other Imports"

3.22 Raw Material Imports for Export. The major category of imports by 1975 was the group: raw material imports for export. This group was also clearly the fastest growing category of imports, both in current and constant price terms, over the whole period 1965-75, though the real growth rate of the category slowed down in the second half of the decade, due to the fruition of import substitution efforts in certain major categories of intermediates (particularly those used in export production /1), as well as to the mild slowdown in the real rate of growth of total exports in 1970-75 relative to 1965-70. In 1975 prices, the growth rate of raw materials for export fell sharply from more than 39% p.a. registered in the period 1961-65 to around 26% p.a.

3.23 However, before we proceed to an analysis of the determinants of the growth of imported raw material inputs for export activity, it is appropriate that we first point to the drawbacks of the data available. The historical data on this category of imports used in the Fourth Plan, is derived from Customs Office documents which total the registered values of imported raw materials directly used in export activity, on which duty drawbacks are computed. It is apparent therefore that the FYYP's import series on the raw material requirements for export understate the actual requirements by the magnitude of the indirect import requirements which are omitted from the Customs Office duty books. It has however already been well documented in the input-output exercises carried out by Cole and Westphal,

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/1 Textiles as a whole, for example, accounted for about 31% of total exports in 1965, and 36% in 1975. Consequently, the success of backward integration activities in the textile sector in the Second and Third Plans may have had a considerable impact on the magnitude of raw material imports required for textile exports in 1970-75.

and by Suh /1, that the indirect import content of exports has been rising over time; indeed it appears to have risen by as much as 20% between 1966 and 1970. Annex B demonstrates that this has been a composite of two effects: changes in the composition of final demand, and changes in the import coefficients of the various input-output sectors. Changes in the latter alone were apparently responsible for an 8% increase in the indirect import content of exports between 1966 and 1970. This implies that in order to properly gauge the import implications of a certain export bill, some attempt should also be made to determine the indirect import component of export activities /2. As the import data now stand that part of the indirect import content of exports, which consists of imported parts and components, is being lumped together with capital goods /3, while the residual falls in the category of "other imports". This implies that none of the estimates for raw material import requirements for export, capital goods, and "other imports" are truly acceptable. In our appraisal of the FFYP estimates, moreover, it will be important to bear in mind the apparent historical trend in the indirect import content of exports since both the changes in the composition of the final export sector /4, as well as the import substitution efforts likely to be undertaken in the period of the FFYP are likely to increase the importance of the indirect imports required in established lines of export activity. The increase in the diversity of the export basket will of course continue to increase the direct import component of total export activity.

3.24 As the Customs Office data now stands, (see Table I.22) the ratio of direct raw material imports for export to total exports has generally remained

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/1 David C. Cole, and Larry E. Westphal, "The Contribution of Exports to Employment in Korea," in Wontack Hong and Anne O. Kreuger, eds., Trade and Development in Korea, Korea Development Institute, Seoul 1975, and Suk Tai Suh, "Import Substitution and Economic Development in Korea," Working Paper No. 7519, Korea Development Institute, Seoul, December 1975.

/2 It is unfortunate that the input-output results cannot be used directly, to supplement the Customs Office data, to yield a total picture of the direct and indirect import requirements for export production. This is because input-output calculations severely understate the import content of exports by assuming implicitly that the intermediate content of a sector's output is the same whether destined for the domestic or export market, whereas it is well known that the direct import content of a product which is routed to the export market is generally higher than that of the same product when it is sold domestically.

/3 A part of the indirect import component of exports which consists of petroleum products might also be lumped together with petroleum product imports.

/4 The Cole and Westphal input-output exercise demonstrates that during the period 1966-70, changes in the composition of the export basket were responsible for around 12% of the changes in the indirect import content of export demand.

Table I.22: RAW MATERIAL IMPORTS FOR EXPORTS
(US$ million)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
1. Total of raw material imports for exports	10	101	135	213	297	386	506	688	1,567	2,039	2,180
2. Ratio of (1) to total exports (%)	- /a	40	40	44	45	44	45	41	48	46	44
3. Total of raw material imports for exports, in 1975 prices	20	183	249	411	557	691	830	1,147	1,737	1,757	2,180
4. Ratio of (3) to total exports in 1975 prices (%)	- /a	46	49	57	55	53	49	46	45	42	44

/a The 1965 value of $10.4 million for raw material imports for export appears to be so unusually low that we have disregarded it.

Source: The Department of Customs Administration, Statistical Yearbook of Foreign Trade, various issues, and Bank of Korea: Economic Statistics Yearbook, various issues.

at well over 44% in current prices. In 1975 prices /1 the ratio has averaged over 48% in the period 1966-73. Given the changes in the structure of exports envisaged during the period of the FFYP, as well as the growth rate of exports, it is unlikely that this ratio will drop significantly in the future.

3.25 "Other Imports." /2 This category has followed an unusual path in recent years. In current terms, "other imports" grew at the rate of 16% per annum between 1965-70 (see Table I.23). The growth rate dropped to around 13% p.a. in 1970-75 with actual declines in import levels being registered in 1972 and 1975. The 1970-75 picture is more erratic in real terms, with the real rate of growth falling to around -0.5% p.a. during the period, and declines in real import levels being registered in 1972, 1974 and 1975./3

3.26 Before we analyze these trends, however, it is appropriate to remember that this category, "other imports" is an amalgam of three major groups of products: the first consists as we have said, of some part of the indirect content of exports; the second consists of imported intermediate materials required for domestic activities, both investment and consumption; and the third consists of imported final goods for domestic consumption. We shall look at the available analysis on past trends in these categories of "other imports" in attempting to explain the aggregate behavior of this group.

3.27 The evidence available on trends prevailing in 1966-70, with respect to the component categories of "other imports" is set out in Table I.24. We shall deal first with the demand for "other imports" required to satisfy intermediate uses in both export and domestic activities (i.e. the first two components of "other imports"). This increased by 20% between 1966 and 1970 (the latest period for which evidence is available). The increase was largest for fixed investment demand (29%), about 15% of the increase being due to the change in import coefficients between the two dates. The next largest increase was registered by the indirect import content of exports, the increase registered being of the order 20%. Smaller increases were registered in 1970, over 1966 levels, for government consumption (13%), private consumption (7%), and stocks (5%).

/1 Line 3 in Table I.22 has to be analysed with caution since the Mission has certain misgivings about the price index used to deflate the current values of raw material imports for export. In the absence of a published price index it has been constructed from the available price indices for various categories of raw material imports.

/2 The overlap between raw material imports required for export activities and capital goods imports is responsible for a corresponding understatement of the magnitude of the residual category of imports: "Other Imports".

/3 See Table I.23. The magnitudes of the value of "other imports" at 1975 prices must however be accepted with caution since the real values of other imports were derived as a residual, and considerable problems do attach to the calculation of the price indices of the other four component categories of imports.

Table I.23: TRENDS IN "OTHER IMPORTS"
(in million dollars)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Other Imports, current prices	296	342	415	520	575	631	712	572	777	1,331	1,157
Annual growth rate of Other Imports at current prices	-	15.5	21.3	25.3	10.6	9.7	12.8	-19.7	35.8	71.3	13.1
Other Imports at 1975 prices	577	712	830	987	1,129	1,175	1,434	1,270	1,637	1,437	1,157
Annual growth rate of Other Imports at 1975 prices	-	23.3	16.6	18.9	14.4	4.1	22.0	-11.4	28.9	-12.2	-19.5

Source: Bank of Korea, Economic Statistics Yearbook, various issues.

Table I.24: IMPORT CONTENT OF FINAL DEMAND

	Consumption		Investment		Exports	Total
	Private	Government	Fixed	Stocks		Final Demand
1966						
Direct	1.6	7.9	29.0	12.8	0.0	6.7
Indirect	9.7	9.5	14.7	16.2	21.4	11.8
Total	11.3	17.4	43.7	29.0	21.4	18.5
1970						
Direct	3.4	3.4	19.3	21.4	0.0	6.8
Indirect	10.4	10.7	18.8	17.0	25.7	14.2
Total	14.1	14.1	38.1	38.4	25.7	21.0

Source: Annex B, Table 13.

3.28 The third component of "other imports": imports of consumer goods, appear to have increased modestly between 1966 and 1970 for private consumption, but not for government consumption (see Table I.24). The direct import content of private consumption increased by 13%, while that of government consumption decreased by 57% between 1966 and 1970. However, since the proportion of private consumption in 1970 was of the order of 87%, the direct import content of total consumption can be considered to have increased between 1966 and 1970.

3.29 In the light of this evidence, assuming that trends in the indirect import content of exports, and in the indirect import content of domestic activity continued to prevail (or at the very least did not decline), in the following period 1970-75, the decline in the real rate of growth of "other imports" suggests that imports of consumer goods were squeezed drastically in response to balance of payments pressures in 1974 and 1975. Another contributory factor may have been a successful import substitution drive in the consumer goods industries. It is interesting to note, however, that the rate of growth of total consumption (in 1970 prices) also dropped, concomitantly with the possible drop in imports of consumer goods, to 7.6% p.a. in 1970-75, relative to the 9.4% growth rate achieved in 1965-70.

4. THE PLAN'S IMPORT TARGETS

4.01 The FFYP expects imports to grow at a rate of 12% p.a. in real terms over 1976-81. A judgement on the feasibility of this import growth rate is a somewhat difficult task, particularly in the context of the unusual behavior of imports over the last four years 1973-76. Nevertheless, the years 1970-76

were chosen as an appropriate middle term during which an acceptable notion of an average import growth rate could be expected to have emerged. The growth rate of commodity imports registered over this period was around 13.3% p.a. (at 1975 prices). The Mission is therefore of the opinion that the import growth rate could possibly be held down to 12% p.a. in periods of stress, but is likely to be higher if the external environment facing the Korean economy is favorable over the period of the FFYP, and is likely to be even more so, if stable growth on the export front induces some liberalization in the import sphere.

4.02 But before we proceed to analyze the targets laid down for various components of the aggregate import bill, it is appropriate to point out that the FFYP projections do not reflect the revised import data for 1976. The most recent estimates which do not however provide a commodity breakdown, indicate that aggregate commodity imports f.o.b. for 1976 were of the order of $8.1 billion in current prices, and around $8.2 billion in 1975 prices (assuming a fall in the import price index of about 0.7 percentage points in 1975/76). Since the ratio of imports c.i.f. to imports f.o.b. is assumed to remain constant, the total import growth rate for 1976-81 then works out at 10.4% p.a. The FFYP 1981 targets for the five major import groups and the associated growth rates are laid out in Table I.25. The 1975-81 growth rates are also laid out in the table for the sake of completeness, although in view of the restrained behavior of imports in 1975, it is well to remember that they are apt to be overestimates of the targeted rates.

Table I.25: IMPORTS BY COMMODITY GROUPS
(In million dollars, c.i.f., at 1975 prices)

				Average Annual Growth Rates	
	1975	1976	1981	1975-81	1976-81
Crude oil	1,271	1,490	2,523	12.1	11.1
Grains	689	514	556	-3.5	1.6
Capital goods	1,909	2,237	3,804	12.2	11.2
Raw materials for export	2,180	2,944	5,670	17.3	14.0
Other imports /a	1,225	1,265	2,362	11.5	13.3
Total imports	7,274	8,450	14,915	12.7	12.0
		(9,077) /b			(10.4) /b

/a Here, "Other imports" include petroleum products, other than crude oil.

/b Based on recent estimates for 1976.

Source: FFYP.

(a) Grain Imports

4.03 The FFYP projects a growth rate of 1.6% p.a. over 1976-81 for grain imports, involving imports of 1.8 million mt of wheat and around 1.2 million

mt of feed grain./1 The Mission believes that these projections of grain imports are reasonable.

4.04 (i) Foodgrains. The FFYP estimates are based on the following projections for the demand and supply of particular grains:

Table I.26: DEMAND AND SUPPLY PROJECTIONS FOR FOODGRAINS, 1975-81

	Preliminary Estimates 1975			Projections 1981		
	Consumption	Production	Imports	Consumption	Production	Imports
Rice	4,422	4,524	481	5,355	5,370	-
Barley	2,106	2,219	-	1,933	2,030	-
Wheat	1,808	136	1,703	2,313	714	1,800 /a

/a The FFYP estimate for wheat imports (the excess of consumption requirements over estimated production) appears to be overestimated by 200,000 MT.

Source: EPB estimates.

4.05 A judgement on the feasibility of the grain import estimates, requires an assessment of the assumptions underlying the consumption and domestic supply estimates.

4.06 The Mission has attempted to test the appropriateness of the FFYP consumption estimates against the assumption that the KASS diet pattern /2 will prevail in 1981 (which in turn is based on the age and occupation structure expected in 1981, and takes account of the average Japanese and Taiwanese diets, when these countries were at a stage of economic development similar to Korea). The rice demand estimate is very similar to the Plan estimate of about 5.4 million mt. The barley consumption estimate is somewhat higher, around 2.3 million mt, compared to the Plan's estimate of 1.9 million mt. The wheat consumption estimate is however definitely lower than the Plan's 2.3 million mt, by about 300,000 mt.

4.07 The FFYP's supply estimates for rice are based on assumptions regarding yield and acreage increases. Yields per ha are expected to increase

/1 These estimates are based on EPB internal documents dating back to July 1976. The grain import estimates do not appear to have since been revised.

/2 Thodey, Alan R., "Food and Nutrition in Korea 1965-74", KASS Special Report 11.

by 14%, and acreage by 70,000 ha. The almost five-fold increase in wheat production is expected to result from yield increases of approximately 26% over 1975 yields, and an acreage increase of about 315%. Although barley production is expected to decrease, a yield increase of about 10% is expected to compensate for an approximately 11% decline in area sown. The Mission is of the opinion that though it is unlikely that the area sown to rice will increase by 70,000 ha, the rice self-sufficiency target for 1981 is not likely to be threatened since the rice yield increases are readily feasible and likely to compensate for the shortfall in area. The Mission feels much less optimistic, however, regarding the possibilities for yield as well as acreage increases in wheat, since the area sown to wheat has been declining since 1969, and average wheat yields have not increased since 1969 either. However, it is possible that 10% (as opposed to the plan target of 30%) of Korea's wheat requirements will be produced domestically in 1981. This implies that a shortfall of around 500,000 mt of wheat is likely. In the case of barley, however, it is likely, provided the cropping intensity does not decline, that production will increase by 80,000 mt due to the improvements in the land base resulting from FFYP and earlier investments.

4.08 To conclude, the meshing of the Mission's projected demands and supplies yields the following implications for the foodgrain import bill. Rice demands and supplies are expected to match neatly by 1981. Wheat consumption in 1981 is expected to be around 2.0 million mt; wheat supply on the other hand is projected at around 0.2 million mt, yielding an import estimate of 1.8 million mt. This corresponds exactly to the FFYP target for 1981. Barley demand which is expected to be around 2.3 million mt by 1981, is likely to be matched by expected barley production of almost 2.3 million mt. Thus, the Mission's estimate of 1.8 million mt of foodgrain imports (in the form of wheat) for meeting food demands in 1981, works out exactly at the FFYP's target figure, although for dissimilar reasons.

4.09 (ii) Feedgrains. The FFYP has planned for feedgrain imports of 1.166 million mt in 1981 compared to 0.936 million mt in 1975. This is based on the assumption that at least 30% of the nutrients for milk and meat production will be available from farm household wastes, wheat bran, rice straw, rice and barley byproducts and from pasture. The Mission considers that household wastes of this magnitude are unlikely to be available and believes that the FFYP's import target underestimates feedgrain requirements by approximately 14-15%. However, this is unlikely to affect the total grain import bill for 1981 by more than 5% in constant 1975 prices. In terms of current prices, the shortfall is likely to be even less significant since feedgrain prices are expected to drop by around 12-13% by 1981.

4.10 To sum up, therefore, the Mission concludes that the FFYP's total grain import target for 1981 is on the whole feasible.

(b) Imports of Crude Oil

4.11 The FFYP's targets for crude oil imports of 233,602 bbl in 1981, implying a growth rate of 11.1% per annum over 1976-1981, reflects the country's determination to restrict petroleum use, this determination being predicated on Korea's ability to develop alternative sources of energy supply.

4.12 The most recent FFYP estimate for crude oil imports in 1981 is not broken down by end-use sector. The Mission could therefore attempt only a crude appraisal of the 1981 target, by making certain assumptions about the possible sectoral requirements of petroleum in 1981 based primarily on historical estimates of the intensity of petroleum use and past growth rates of petroleum demand by sector. Two alternative estimates of aggregate petroleum demand were then generated using different combinations of assumptions regarding petroleum use by sector (see Table I.27).

4.13 Power Generation. Data for 1966 and 1974 on electricity sales (in '000 TOE) generated by petroleum use, imply that the petroleum intensity of power generation activities (i.e. petroleum requirements per unit of electricity generated) had risen considerably between 1966 and 1974 from 0.63 to 2.46 (in '000 TOE of petroleum).

4.14 The Mission felt that the petroleum intensity of 1974 could well prevail in 1981. In that event, the petroleum requirements for power generation in 1981 would total 7.633 million TOE. An alternative estimate available in July 1976, from KECO on the basis of their own operational data and allowing for the projected additions to power generation, placed petroleum demand in the sector at 6.766 million TOE.

4.15 Industry /1. The Mission's estimates for petroleum demand in industry were based on historical estimates of petroleum intensities established in the sector. The comparison of the actual petroleum demand figures for 1966, and 1974, with the actual value added in the industrial sector in 1966 and 1974 shows that petroleum intensity (or petroleum requirements in '000 TOE per billion won of value added generated in the sector) increased from 1.89 in 1966 to 2.97 in 1974. Since there is no indication that future industrial development will be less energy-intensive than in the past (indeed the targeted structural shifts in industry are expected to increase the share of the combined metals, chemicals and machinery sector which is relatively intensive in its use of petroleum), one of the Mission's estimates of petroleum demand (Alternative I) was based on the assumption that the 1974 petroleum intensity would prevail in 1981. This yields an estimate of petroleum demand by industry in 1981 of about 11.2 million TOE /2. Alternative II, continues to use Alternative I's extrapolation of 1974 petroleum intensities but assumes that an energy conservation target of 10% of industrial consumption demand in 1981 will be achieved. This yields an estimate of petroleum demand in industry of about 10.1 million TOE.

4.16 Transport. The draft FFYP which had assumed that past trends would continue to prevail in the sector, had planned for a petroleum demand of 4.2 million TOE in the transport sector. The Mission has incorporated this estimate in its formulation of petroleum demand for 1981 as there are no indications of basic changes in the underlying pattern of energy use in the sector.

/1 Includes mining and construction.

/2 This is necessarily a very rough and ready estimate since estimates of value added in construction are not available for 1981.

4.17 Residential/Commercial. The consumption of petroleum in this sector has grown very rapidly in the past, i.e., at a rate of about 37% p.a. The Mission has assumed that future petroleum demand for residential/commercial uses will not grow as rapidly as in the past (consumption may be discouraged by higher petroleum prices). Nevertheless, it expects that residential/commercial demand for energy will grow at a rate at least equal to that of private consumption and that petroleum demand would bridge the gap left after the allocation of coal and noncommercial energy. This would result in a projected rate of growth of petroleum demand of about 22% p.a.

4.18 Other. The projected demand in Table I.27 is based on past trends.

Table I.27: PROJECTED CONSUMPTION OF PETROLEUM, 1981
(in '000 TOE)

	Mission estimates	
	Alternative I	Alternative II
Energy Use:		
Power generation	7,600 /a	6,770 /b
Industry	11,250 /a	10,100 /c
Transport	4,200	4,200
Residential/commercial	3,800 /d	3,800 /d
Other	840	840
Nonenergy Use	4,300 /e	4,300
Total	31,990	30,010
Total Petroleum Demand (in million barrels)	249.5	234.0

/a Estimate derived on the assumption that the 1974 petroleum intensity will prevail in 1981.

/b KECO estimate.

/c Using the Alternative I estimate, it was assumed that the 10% energy conservation target would be achieved, in 1981.

/d Estimate derived on the assumption that petroleum demand for residential/commercial purposes would grow at 22% p.a.

/e EPB estimates, as of January 1977.

Note: These estimates, which incorporate the January 1977 estimates of value added in industry, and of petroleum requirements for non-energy uses, differ from the estimates in Annex E, Table 38.

4.19 Total crude oil import requirements on the two alternatives therefore work out as follows:

Table I.28: TOTAL PETROLEUM IMPORT REQUIREMENTS, 1981
(in million barrels)

	Alternative I	Alternative II
Energy and nonenergy uses	249.5	234.0
Increase in reserve product	-	-
Increase in crude reserve	0.3	0.3
Required crude oil imports /a	261.5	245.3
Value of crude oil imports (US$ million in 1975 prices)	2,820	2,650
Annual compound rate of growth of value of crude oil imports (in 1975 prices) 1975-81	14.2	13.0

/a The conversion factor for obtaining a measure of crude oil requirements from refined oil requirements is 0.955.

4.20 Alternative I estimates the crude oil import bill in 1981 at about 12% higher than does the Plan. However, Alternative II compares very favorably with the Plan's estimate of 233.6 bbl in 1981 or a value of crude oil imports of about $2,523 (in 1975 prices) /1. The Mission therefore feels that the Plan's aggregate import target for 1981 is reasonable, although ambitious.

(c) Capital Goods

4.21 As Table I.25 shows, the FFYP assumes that capital goods imports will grow at the rate of about 11.2% over the period 1976-81. The Mission believes that an 11.2% growth rate over 1976-81 would require such a substantial effort at import substitution in the short span of five years, that it probably could not be achieved without recourse to import quotas, particularly on machinery, with possible adverse effects on the efficiency not only of the machinery sector, but on the rest of the economy.

4.22 The process of target setting for capital goods imports bears some scrutiny. This was based on target ratios of imports to fixed capital formation derived from a consideration of historical trends in fixed capital formation and the real effective import exchange rate. Allowance was then made for the projected import substitution efforts in the capital goods sector and the inter-industrial demands for machinery, to arrive at modified target ratios set out in Table I.29.

/1 Alternatives I and II imply that petroleum demand elasticities with respect to GNP during the FFYP period will be of the order of 1.4 - 1.5, compared to 2.4 in 1966-74. A substantial decline is therefore built into these estimates.

Table I.29: PLAN TARGETS: CAPITAL GOODS IMPORTS

$ million in 1975 prices	1975	1976	1977	1978	1979	1980	1981	1975-81
1. Capital goods imports	1,909	2,237	2,670	3,088	3,358	3,627	3,805	-
2. Annual rate of growth (%)	-	17.2	19.4	15.7	8.7	8.0	4.9	12.2
3. Ratio of capital goods imports to total imports (%)	26.2	26.5	27.4	28.2	27.4	26.7	25.5	-
4. Ratio of capital goods imports to gross domestic fixed capital formation	40.2	36.6	40.0	42.5	44.0	44.0	42.5	-

/a The form of the equation was as follows:

ln (MCG) = A + Bln (FCF) + Cln (REIER)

where MCG = imports of capital goods

FCF = fixed capital formation

REIER = Real Effective Import Exchange Rate

4.23 It appears that the levels of these projected ratios have been set at only marginally higher levels than those actually achieved in the past, despite the considerable structural changes in industry which are projected in the FFYP (compare Tables I.19 and I.20 with I.29). The ratio of capital goods imports to fixed capital formation has averaged 40% in the period since 1968. The Plan sets the average ratio at about 42%. The projected average share of capital goods imports to total imports over 1976-81 is around 27%; the share has stood at around 26% in 1970-75. As for the growth rate of capital goods imports, the rate of growth in 1975 prices, was 19% p.a. over the period 1970-74, compared to the Plan's 11.2% p.a.

4.24 A partial explanation for the combination of a low import growth for capital goods imports (relative to the past), with more or less stable ratios of capital goods imports to total imports, and to fixed capital formation is provided by the lower targeted rate of growth of fixed investment in the FFYP (7.8% p.a.) relative to the rate attained in 1970-75 (more than 9%).

4.25 The second explanation lies in the degree of import substitution envisaged in the Plan. Using the FFYP estimates of output exports and imports in the MES sectors in 1975 and 1981, the ratio of imports to domestic demand /1 was estimated to fall from 53.4% in 1975 to 39.4% in 1981 (both estimates in 1975 prices). As Table I.21 (which was set out in 1970 prices) demonstrates, the share of imports in domestic demand had hit an unusual low in 1975 (more than 30% lower than the average share established in 1970-74). A further plausible drop to around 46% /2 of domestic demand could raise the 1981 import bill for capital goods by as much as $1 billion.

4.26 Again it is appropriate to point out that the achievement of the 11.2% per annum target rate for capital goods imports requires an early formulation of a policy package for the whole machinery sector with special emphasis on mechanical engineering, electronics and shipbuilding. Not only

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/1 As we have said before, the Mission views the Plan's target-setting procedure with some scepticism. The ratio of capital formation does not appear to be an appropriate indicator of either the need for capital goods or the extent of import substitution required for the capital goods sector. In the past, the bulk of the imported capital goods used for domestic fixed investment, constituted finished capital goods. In the future, however, as the product mix and exports of the capital goods sector expand, imports of capital goods will consist increasingly of components for assembly activities for the domestic and export markets. Indeed the import of components will not be incompatible with the extension of import substituting activities in the sector, since they will be designed to complement the import substituting activities involving parts and components production which are likely to be initiated in the course of the FFYP. This change in the structure of imports is not adequately taken account of in the FFYP's forecasting procedure. A more appropriate indicator which takes account of both the categories of capital goods imports - finished goods and parts - appears to be the ratio of imports to total domestic demand.

/2 This was the EPB target as of July 1976. See Annex B.

is a careful meshing of export and import substitution goals required in these subsectors, but also a close appreciation of the common problems which are likely to beset these industries, problems associated with the "learning" phenomenon, technology transfer, material supplies, the development of subcontractors, institutional arrangements for quality control, the training of labor and engineers, and the identification and coordinated planning of the end-use sectors with the supplying sectors.

(d) Raw Material Imports for Export and "Other Imports"

4.27 Raw Material Imports for Exports. The Mission believes that the FFYP's estimate for imports of raw material requirements for exports and "other" imports required for domestic consumption and production uses, are feasible, although they require a very concerted effort at import substitution in the area of raw material requirements for export. The Plan estimates that imports of raw materials for export will grow at a rate of about 14.0% per annum between 1976-81, and that "other imports" will grow at around 13.3% over the same period. Imports of the combined category are expected to grow at 13.8% p.a., totalling around $8,032 million in 1981. An adequate judgement on this issue cannot be undertaken /1, as we have pointed out before, because the Plan's import estimate refers only to the direct requirements of imported raw materials for export. The Plan, as we have seen bases its estimates on a historical series obtained from the Customs Office.

4.28 The Plan's estimate of around $5,670 million of direct raw material requirements for export activities estimated at about $14,165 million in 1981 (in 1975 prices), implies that the Plan forecasts a fall in the ratio of direct raw material requirements for exports to total exports to around 40%. Over the period 1966-73, the average level of this ratio was around 48%. The Plan target therefore requires a rather severe fall in the ratio, which can only be effected by very substantial import substitution. Moreover, it is quite possible that the increase in the diversity of the export basket will tend to counteract the effects of import substitution efforts aimed at decreasing the direct raw material import content of exports.

4.29 As for the indirect import content of exports /2 independent empirical work /3 does show that the indirect import content of exports has

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/1 See Chapter 3 for a discussion of the difficulties associated with the estimation of this component of imports.

/2 The import content of exports being defined as the ratio of the quantity of direct and indirect intermediate inputs required to produce a given volume of exports to total exports.

/3 David C. Cole and Larry E. Westphal, "The Contribution of Exports to Employment in Korea," in Wontack Hong and Anne O. Kreuger, eds., Trade and Development in Korea, Korea Development Institute, Seoul, 1975, and Suk Tai Suh, "Import Substitution and Economic Development in Korea." Working Paper No. 7519, Korea Development Institute, Seoul, December 1975.

been increasing steadily between 1960 and 1970. Given the projected increase in the degree of backward integration in the economy, the indirect import content of exports can be expected to continue to increase.

4.30 Indeed, on the basis of a static input-output exercise (which does not take account of import substitution possibilities), the Mission estimates that the total, direct and indirect import content of exports is likely to increase by 10% by 1981. The Plan's target rate of growth of 14.0% p.a. for imported raw material requirements for export in 1976-81, though feasible, appears therefore to be in the nature of a bottom line estimate.

4.31 "Other Imports" such as raw material requirements and consumer goods for domestic use have behaved somewhat erratically in the recent past. Imports of this category have been held down in the past, particularly since 1968, owing to balance of payments constraints. The real rate of growth of other imports, however, averaged around 10% p.a. in 1969-73. It is therefore possible that in a period of sustained growth, the rate of growth of these "other" imports may well rise to levels much in excess of those achieved in the past. It is from this perspective that the Plan's target rate of growth of 13.3% p.a. over 1976-81, although considerably higher than that attained in the past appears necessary.

The Growth Rate of Total Imports: A Summing Up

4.32 The appraisal of the growth rates of the component categories of imports leads to the conclusion that the growth rates of all the various categories of imports are indeed in the nature of bottom line estimates. The 11.2% p.a. growth rate for capital goods would require a very strong thrust in the direction of import substitution in the various machinery sectors, particularly in mechanical engineering, shipbuilding and electronics. Although a beginning has been made in electronics /1, the precise steps to be followed in a sustained program of development have yet to be outlined. Similarly, in industrial machinery it is not clear whether the package of incentives is well designed or sufficient to allow the targeted import substitution measures to materialize, or whether import restraints will be considered necessary. It appears to be within the realm of possibility that a modest import substitution target of, say 46%, of domestic demand may in fact be realized, which could in turn throw up an import bill for capital goods about $1 billion in excess of Plan magnitudes. As for grain imports, the planned 1.6% p.a. growth rate is likely to be exceeded by about 4-5% on account of higher feedgrain requirements. The Plan's projected growth rate of crude oil imports of 11.1% appears feasible, although a 12% underestimate is also possible, even in the absence of a significant liberalization of petroleum use. As for the raw material requirements for export, and "other imports", the Plan's estimates of growth rates of 14.0% p.a. and 13.3% p.a. respectively, or a combined growth rate of 13.8% p.a., although possible given a stern import substitution regime, may however be overstepped for the reasons we have outlined above.

/1 An Electronics Institute is to be set up at Kumi.

4.33 The Mission therefore concludes that even if the line is held on the combined category, imported raw material requirements and "other imports" even modest shortfalls in the import substitution targets for crude oil, capital goods and feedgrain imports could raise the aggregate import bill well above 10% of the 1981 Plan targets /1. This margin might very well be larger, if a regime of import liberalization were to be adopted.

/1 If the target for the combined category,raw materials for export and "other imports" itself slipped by as much as 10%, the aggregate import bill could overshoot the target for 1981 by as much as 15%.