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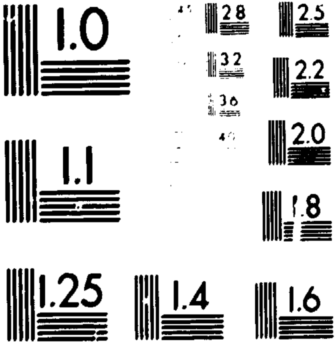

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INDUSTRIAL POLICY AND INDUSTRIALIZATION IN SOUTH KOREA - With A Special Reference to the Capital Goods Sector (1961 -1982) *

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1. INTRODUCTION.

The recent, spectacular performance of the Korean economy, cited often as the miracle of the Han, has been widely viewed as a model of emulation by other industrializing countries. It is a miracle in the sense that the transformation of a subsistence, agrarian economy with a meager resource and industrial base (with not more than an acre of farm-land per household) to a rapidly growing industrialized country took place within the period of two decades. Moreover, the rapid growth has been achieved with a degree of relatively equitable income distribution by international comparisons.[1]

Only thirty years ago, Korea was described by an American journalist as "a land of misery and chaos, and a nation unable to help itself because it has no voice in any major decision affecting its future."[2] Even before the devastating Korean conflict in the early 1950s, the Republic of Korea in 1949 had a per capita income slightly lower than those of Haiti, Ethiopia, Yemen and about 40 percent below India's. If ever there was an economic basket case, Korea of the 1940s and 1950s was it.

The recent literature on the Korean turnaround is voluminous. Many factors - social,cultural,political and economic - have been ascribed to the success story of Korea.

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[1] See Adelman (1974) for the evidence regarding Korea's income distribution.
[2] John C.Caldwell in 1955.

Undoubtedly, all these factors must have interactingly affected Korea's development path, and an attempt to single out any particular factors as more decisively important would be futile in the light of the complexity of problems inherent in the development process itself. One important aspect of Korea's success, however, that has in the previous studies been given much less atention than should have been, concerns the role of government in promoting the development of industry, which clearly has been the centerpiece of economic development in Korea.

Thus, the thrust of this paper is to carefully examine the strategies and policies of the Korean government in promoting industrial development and to analyze their impact on the overall development of the economy. It is concluded that contrary to many earlier views on the Korean development, the basic development strategy, closely allied with the national priority on growth, has not been based so much on a blind faith in the working of a laissez-faire economic system as on the deliberate formulation and effective execution of articulate government policies. That is, it is hardly possible to think of the Korean development without policies and planning, and no businessman would have made his own decisions without more than some understanding of development plan and strategies.

This recognition for the priority need for economic development was not solely the result of determination at the top. It was conceded at all segments of society that there were indeed advantages in working together for all. It was considered desirable to allocate resources more rationally and to set suitable priorities, if necessary, by planning and policy. It was helpful for everyone to know in which direction the economy was heading even if some did not care to follow or even disagreed with it. Moreover, Koreans found that plans could also serve as a means of evaluating performance. This concept applied to all levels including workers, industrialists, farmers as well as the bureaucracy .

The plan of this paper is as follow: Section 2 reviews the growth performance and changes in industrial structure in the Korean economy with a special reference to capital-goods industry development for the last two decades. The following two sections deal with the historical evolution of goals and strategies associated with each national plan period, and with the types of policy instruments used to attain policy-objectives as well as the nature of consistency among various instruments. Section 5 examines the effects of the industrial policy on the Korean development, albeit, at a crude level of analysis. Finally, problems and the issue of adjusment in Korea's industrial development policy, along with a summary of achievements are discussed in the final two sections.

2. GROWTH AND STRUCTURAL IMPROVEMENT.

Until the recent industrialization of the economy that began with the launching of the First Five-Year plan in 1962, South Korea had remained an economy essentially based on subsistence agriculture with all the difficulties facing a typical developing country today. In the 20 years between 1961 and 1981, Korea has achieved a remarkable economic and social progress. Over the period, real GNP expanded at an average rate of 8.6% per year from 12.5 billion to 60.0 billion dollars;and per capita GNP increased from 471 to 1,549 dollars, both at 1980 prices.[3] Meanwhile, its commodity trade volume increased susbtantially from 450 million dollars to approximately 45 billion dollars at current prices, registering an annual real growth rate, on average, of 10 percent.

This rapid growth was accompanied by structural transformation from subsistence agriculture to modern manufacturing. Over the same period, the mining and manufacturing sector increased its share of GDP from 15.5% to 30.0% with the share of agriculture in GDP decreasing from 40 percent to 18.3 percent. At the same time, the ratio of domestic savings rose from 25.5% to 69.1% of total investment. As a result of this growth, the portion of the population below the

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[3] In 1982 the world-wide recession adversely affected the Korean economy; Real GNP grew only by 5.6%. It quickly recovered to a 9.5% growth in 1983. In particular, the manufacturing sector grew 11%. This growth was attributed to brisk exports reflecting economic recovery abroad as well as upsurge of a strong domestic demand.

absolute poverty line fell from 40.9% in 1965 to 9.8% in 1980 (table 1 and 2).

TABLE 1

MAJOR ECONOMIC INDICATORS, 1962-1981

	1962	1981
Real GNP ($ bil., 1980 prices)	12.50	60.00
Per Capital Real GNP ($,1980 prices)	471.00	1,549.00
Commodity Trade Volume ($.bil)	0.45	45.00
Share of Mining & Manufacturing Sector (% of GNP)	15.50	30.00
Domestic Savings (% of investment)	25.50	69.10
Poverty Group (% of population)	40.90 (1965)	9.80 (1980)

Source: Economic Planning Board

TABLE 2

THE KOREAN ECONOMY: PERFORMANCE BY FIGURES

PRINCIPAL ECONOMIC INDICATORS

ITEMS \ YEAR	REMARKS	UNIT	1962	1965	1970	1975	1980	1981	1982
Gross National Product (GNP)	Current Market Prices	million dollars	2,315	3,006	7,834	20,233	56,460	61,606	64,460
		billion won	355.54	805.72	2,634.02	9,792.85	34,321.55	43,155.33	48,267.83
	1975 Constant	million dollars	2,362	1,428	2,009	2,023	2,098	2,115	2,072
	Market Prices	billion won	3,071	3,884	6,362	9,792	13,842	14,819	15,513
	Growth Rates	%	2.2	5.8	7.6	7.1	—6.2	6.4	5.4
	Per Capita GNP	U.S. dollar	87	105	243	574	1,481	1,607	1,678
Money Supply	End of Year	billion won	39.4	65.6	307.6	1,181.7	3,807.0	3,986.0	5,809.9
Index Numbers of Industrial Products	Total Index	1975 = 100	10.5	13.7	37.4	100.0	209.8	231.7	240.6
	Mining	1975 = 100	44.8	59.1	71.3	100.0	111.2	119.1	107.4
	Manufacturing	1975 = 100	9.2	11.9	35.3	100.0	215.9	238.8	249.1
	Electricity	1975 = 100	9.9	16.4	46.2	100.0	187.7	202.7	217.4
Price Index	Wholesale	1980 = 100	16.1	28.8	42.0	100.0	225.2	275.3	288.9
	All Cities Consumer	1980 = 100	—	27.5	49.1	100.0	231.3	272.9	287.9
Foreign Trade (Customs Clearance Basis)	Exports (FOB)	million dollars	54.8	175.1	835.2	5,081.0	17,504.9	21,253.8	21,853.4
	Imports (CIF)	million dollars	421.8	463.4	1,984.0	7,274.4	22,291.7	26,131.4	24,250.8
Industrial Structure	Agri. For. & Fishery	%	36.6	37.6	26.8	24.9	16.3	18.0	16.4
	Mining Mfg.	%	16.2	19.9	22.3	28.0	30.2	30.9	28.9
	Soc. & Others	%	47.1	42.5	51.0	47.1	53.5	51.1	54.7
Employment	Total	thous. persons	—	8,206	9,745	11,830	13,706	14,048	14,424
Unemployment	Rates	%	—	7.4	4.5	4.1	5.2	4.5	2.5
Population	Mid-Year	thous. persons	26,513	28,705	32,241	35,281	38,124	38,723	39,331
	Growth Rate	%	2.90	2.57	2.21	1.70	1.57	1.57	1.57
Foreign Exchange Holdings	won	million dollars	168.6	146.3	609.7	1,550.2	6,571.4	6,891.0	6,984
Exchange Rate to U.S. dollars	End of year	won	130.00	272.06	316.65	484.00	659.90	700.50	748.80

Note: (P) = Preliminary

(Source: The Bank of Korea)

The rapid structural transformation is also reflected in the commodity composition of exports. Manufactured goods exports accounted for 22.0 percent of the total in 1961, reaching as much as 93.7 percent by 1982. Heavy machinery and chemical product exports began to comprise a larger and larger share in export composition. The share of manufactured goods rose to 54 percent in 1982 from 15 percent in 1966, reflecting largely increases in electronics production and ship building.

Development of Capital Goods Industry

In recent years, largerly as a result of intensified government support, the capital goods sector,[4] in particular, machine tools and other heavy equipment,[5] produced for both domestic consumption and export, has developed very rapidly. The main argument for supporting capital goods production in such semi-industrial developing country as Korea was that the pattern and volume of final and intermediate goods manufacture had advanced to the point where consideration of scale economies would no longer argue against backward integration into capital goods production. By the mid-1970s inter-industrial linkages in Korea's industrial structure were indeed "deepened" as well as diversified to allow a market size sufficient to permit scale-

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[4] "Capital goods" in general include the machinery and other equipment that enter into capital formation.

[5] The share of machine equipment in total value added of capital goods (which included transport equipment) in 1979 was about 5 percent (Yearbook of UNESCO).

economies in capital goods production. In addition, Korea by this time was faced with the situation of increases in wage levels and the prospects of increased competition from other LDCs which would enjoy a larger wage advantage.

Thus,the capital goods sector provided one of the logical options for development, since the sector's products have been relatively unaffected by protectionist measure in the world market, LDC penetration of developed country market was still at an early stage, and capital goods were relatively skill-intensive, which was unthreatening to the employment in developed countries of unskilled labor that provided most vociferous support for protectionist sentiments in the industrialized countries.

Following the government's declaration of support for heavy and chemical industrialization in 1973, the domestic demand for machinery products quickly rose with the annual average increase rate of 23.9 percent in the decade of 1970s (Table 3). Domestic production has correspondingly shown a remarkable upward trend with diversification growing at an annual average rate of 42.2 percent over the same period. With the development of related demand industries, the pattern of products has also shown a change from low-to-high grade products and from general to special use products.

TABLE 3

STRUCTURE OF SUPPLY AND DEMAND FOR MACHINE TOOL INDUSTRY

(unit; US$ 1000, and %)

Year	1971	1972	1975	1978
Output(A)	2,552	5,018	11,145	64,519
Import(B)	17,568	27,533	85,153	250,252
Export(C)	155	804	248	4,200
Domestic Demand(D)	19,965	31,746	96,049	310,570
Self-Suffiency ratio (A/D)	12.8	15.8	11.6	20.8
Export ratio (C/A)	6.1	16.0	2.2	6.5
Import ratio (B/D)	88.0	86.7	88.7	80.7

Year	1979	1980	1981	1971-1980 average annual increase rate(%)
Output(A)	112,000	17,814	86,434	42.2
Import(B)	201,000	109,855	112,471	20.4
Export(C)	14,340	22,999	28,677	68.5
Domestic Demand(D)	298,660	164,680	170,228	23.9
Self-Suffiency ratio(A/D)	37.3	46.7	50.8	-
Export ratio (C/A)	11.6	27.1	33.2	-
Import ratio (B/D)	67.0	65.9	66.1	-

Source: 1. Report of Mining and Manufacturing Survey.
2. Statistical Yearbook of Foreign Trade.

In relation to other industrial products, the output of industrial machinery and equipment accounted for 26 percent by 1981, as compared to the 1971 level of 11 percent. Similarly, the share of machine goods export in the total rose to 33 percent from a mere 6 percent over the same period. Electrical equipment (in particular transistors) and transport equipment (ships and boat) have been the largest Korean export item in the category of capital goods, exported mainly to developed market economies. More importantly,as the table shows,the rates of domestic production to domestic demand of machine goods in 1981 exceeded 50 percent, a jump from 12.8 percent in 1971.

Taking into consideration a continued economic growth of Korea and positive government support measures for the capital goods industry in general, the industry has promising prospects for continuing progress as both an import substituting and export-oriented industry.

3. OBJECTIVES AND STRATEGIES IN INDUSTRIAL POLICY

Although the common basic thread running through the series of Korea's five-year plans since the early 1960's has been the attainment of the ultimate objective of transforming a subsistance agrarian economy to a modernized industrial power,broad goals in different phrases can be indentified with each plan period.

The early broad goals of the plans were largely economic, such as to establish a self-reliant economy (as opposed to one depending on foreign aid), to accelerate "modernization" of the economy and eventually to maintain a self-sustained growth.[6]

Thus, in the initial years of Korea's industrialization economic growth was set as the primary goal of the nation. The ideology of "Growth First" came from the geopolitical reality that the South Korea would have to become economically self-reliant to defend itself against any aggression from the North, as well as from the fact that foreign aid had been declining.

Indeed, when suddenly the economy did begin to expand and as ambitious growth targets were exeeded, the "growth" objective was quickly turned into almost a national obssesion for nearly everyone to pursue as a popular cause.

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[6] Refer to the planning documents of the Economic Planning Board.

Around the time for the initiation of the Third Five-Year plan in 1972, the South Korean economy seemed to have overextended itself, with the sudden manifestation of structural imbalances and bottlenecks brought about by the earlier rapid growth policy; the high rate of growth had resulted in a rapid buildup of foreign debt and had stimulated inflation, and the disparity between rural and urban incomes had somewhat widened.

The major policy issues, therefore, had to shift to the question of how growth could be made more harmonious, less wasteful, and more securely based. An important source of the bottlenecks and strains was the uncoordinated, buoyant activities of the private sector. New policy measures had to deal with the private sector to rationalize and coordinate its activities for a more harmonious growth. So the Third plan (1972-1976) emphasized a more "balanced growth". The central issue was no longer the sole achievement of rapid growth.

In the current Five-Year plan (1982-1986) the government's industrial policy continues to place priority on an efficient allocation of investment to allow industries to develop more in line with the shifting comparative advantages in the world market. At the same time, policy concerns were increasingly directed at social development, equity and the welfare of society.

Broad goals in the plan would remain a political window-dressing unless they were carried over into more specific policies. In the Korean case, they usually were. On the economic side, to implement the broad objective of accelerating economic growth, specific measures included the strenghtening of key industries, increased employment and higher income, and more effective management systems. Given the economy's continuing dependence on imports, one strategy that has remained throughout is the orientation for "outward"-looking industrialization to pay for its imports. To maintain its exports,there has beeen a continued stress on greater international competitiveness, higher productivity, and since the oil crisis, overcoming energy restraints. On the social side, policies included an expansion of social overhead capital,improved living-conditions and more welfare.

A significant strategy employed for attainment of broad economic goals of the nation, which evolved decisively over time, has been the use of judicious judgment in sector-oriented industrial policy for the shift in emphasis from sector to sector. In the early plans, there was more stress on agriculture and infrastructure, the latter closely related to construction. Subsequently, the emphasis shifted to light industry. Then came electronics. From this it moved to heavy and chemical industries. Now, in a reversion to earlier tactics, rather than trying to single out sectors for promotion, measures that can benefit all indiscriminately are being considered. This dynamic sequencing more or less reflects the changing pattern of comparative advantage for Korea, as her factor endowment conditions also evolve.

Particularly noteworthy in this context is the recent emphasis of the government on capital industry development as the corners-tone of future growth in the Korean economy. The incentive system has been continuously reoriented to develop industries within this sector to enable them to compete more effectively in the world market.

4. FORMS OF POLICY INSTRUMENT

Defining the concept of "industrial policy" broadly as including all government policy measures that are aimed at promoting the development of industry, it is convenient to distinguish two forms of industrial promotional measures; first, there is the set of macro-economic policy measures that exert an economy-wide impact, influencing the general environment for industrial activities, and the second set of policies would be more directly targeted on specific sectors or industries for promotion.

In the case of Korea, an evidence shows that in selecting the instruments used for the promotion of industry, careful consideration has been given to complementarity in the potential impact of macro-economic and sector-oriented policy measures. The specific forms of these policy instruments are the subject matter of discussions in this section.

A. Macro-policy Setting

In Korea, the main role played by macroeconomic policy-measures has been in providing an economic environment conducive to effective resource mobilization, and in particular, to the promotion of investment. They were in general meant to serve as a precondition for rational resource planning of the targeted sectoral development (which included, inter alia, export-oriented industries and other "priority" sectors of the economy).

There were essentially two types of macro economic policy measures used by the government for this purpose.

The first type relates to public-sector investment. An examination of public-sector allocation of investment shows that in the early stage of Korea's industrialization, infrastructure development projects (highways, port-facilities, electricity, irrigation, transportation, communication, etc.) received the lion's share of public funds. Potential investment projects were carefully reviewed only in the light of compatibility with the goals of the national economy.

As table 4 shows, the amount of capital investment by the government and publicly-controlled enterprises averaged at close to 40 percent of total domestic investment in the period between 1963 and 1979. Moreover, the industrial composition of government investment reveals that the share of infrastructure projects investment has been steadily rising, reaching as high as 76 percent of the total public-sector investment in the years between 1977-1980 (table 5).

TABLE 4

PUBLIC-SECTOR INVESTMENT

(Unit: billion won in constant prices)

	Total Domestic Investment (A)	PUBLIC INVESTMENT Government (B)	State Firms (C)	State Controlled Firms (D)	Composition (%) (B+C)/A	(B+C+D)/A
1963	91.1	9.7	7.9	19.7	19.3	40.9
1964	100.6	8.2	15.9	18.9	24.0	42.9
1965	120.9	14.3	16.9	21.5	25.8	43.6
1966	223.9	24.9	24.4	23.8	22.0	32.6
(1963-66 average)					(22.8)	(40.0)
1967	280.7	35.4	26.9	57.5	22.2	42.7
1968	427.7	71.5	34.9	43.6	24.9	35.1
1969	621.3	129.3	39.0	75.4	27.1	39.2
1970	719.1	134.7	36.5	74.7	23.8	34.2
1971	831.4	149.6	44.4	138.5	23.3	40.0
(1967-71 average)					(24.3)	(38.2)
1972	873.8	156.1	63.6	214.5	25.1	49.7
1973	1,341.0	166.7	103.0	131.9	20.1	29.8
1974	2,274.3	214.5	77.8	304.6	12.8	26.2
1975	2,881.8	320.4	311.1	584.3	21.9	42.2
1976	3,378.2	429.0	228.1	580.6	19.5	36.7
(1972-76 average)					(19.9)	(36.9)
1977	4,645.0	611.9	432.4	888.0	22.5	41.6
1978	7,137.7	852.3	209.0	1,207.6	17.7	34.6
1979	10,293.5	1,348.1	475.8	1,556.2	17.7	32.8
(1977-79 average)					(19.3)	(36.3)
Total Average					(21.8)	(37.9)

Sources: The Bank of Korea, Seoul.

TABLE 5

THE INDUSTRIAL COMPOSITION OF PUBLIC-SECTOR INVESTMENT

(UNIT: PERCENT)

	Primary Industries	Mining & Manufacturing	Infrastructure & Social Overhead	Total
First 5-Year Plan (62-66)	25.7	20.8	53.5	100.0
Second 5-Year Plan (67-71)	25.9	13.3	60.8	100.0
Third 5-Year Plan (72-76)	22.7	15.6	61.7	100.0
Fourth 5-Year Plan (77-80 average)	15.7	8.5	75.8	100.0
Total average	22.9	14.9	62.2	100.0

Sources: Economic Planning Board, Seoul, Various Years.

It was these infrastructure and intermediate production support activities which constituted the foundation for strengthening the vertical linkage of production, paving the way for the process of rapid economic growth.[7]

Secondly, perhaps the more important aspect of macro-policy was the price setting for such key resources as foreign exchange, investment funds (interest rate), transport and staple grains (rice and barley). Given the important role of the prices in the overall allocation of resources, extreme care has been exerted to reconcile economic interests of various social classes. One may note in this connection the earlier rounds of general price reform measures, which were instituted before the inauguration of the Second Five-Year development plans (1967-1972). The First plan (62-66), largely a rehash of the ideas presented to the previous regime, was prepared in a hurry, only to show the government's seriousness about economic development, and to provide a ground for more sophisticated, subsequent plans.

The reform measures included the exchange rate reform of 1964 and the interest rate reform of 1965. The exchange rate reform devalued the won from 130 to 255 per dollar and substantially liberalized exchange controls. The devaluation was based on a study comparing world and domestic prices, and the new rate roughly reflected the median purchasing power parity in the

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[7] It must be noted, on the other hand, that the active government investment support gave rise to increasing budgetary deficits, and exerted inflationary pressures on the economy beginning in the early 70's.

international market.

The interest rate reform of September, 1965 doubled the six-month deposit rate to 24 per cent per annum (a real interest rate of around 11 per cent). Borrowing rates, except for special purposes, were comparably raised. The reform was meant to place a real rate of interest more in line with the prevailing real rate of return on capital, to enable a shift from quantitative credit rationing towards "market" allocation, and to encourage domestic savings.* It was also hoped that higher interest rates would reduce inflation.

Both reforms brought key resource prices into line with relative resources scarcities. Since prices must be used to measure the value of resources in uses alternative to those being investigated, adequate resource planning becomes difficult when prices are severely distorted. In this sense, the reforms of 1964 and 1965 were a precondition for meaningful resource planning. But their significance was far greater. For much of planning's positive impact on economic performance came from the reforms. The basic driving force for development in Korea was private-sector response to price and non-price incentives. Substained development in a largely market-oriented economy would be difficult without an adequate price system (as affected by

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* Real domestic savings doubled in 1965 and again doubled by 1967. The velocity of money was reduced, halving the rate of inflation over what it would have been without the cut in velocity induced by the change in the interest rate; the incremental capital output ratio declined by 30 per cent; and the investment rate rose as fast as the increase in savings permitted.

subsidies, taxes and quantitative controls) that reflects relative resource scarcities.

B. Sectoral Policy.

In Korean planning the development of strategic sector which had to be entered and developed were basically left in the hands of the private sector. Investment allocation was of course an important part of industrial policy but the plan's role in achieving an efficient allocation of investment was both to be indicate, and to establish an appropriate set of incentives that could guide private enterpreneurs to the right decisions. The role of the planner was to specifically determine where incentives for investment should be given.

During the early plans, the government identified priorities for industrial development as consisting of both export promoticn and labor-intensity. Exports and employment were to be promcted through subsidies and trade incentives rather than through direct public investment. Public investment was to be concentrated mainly in infrastructure-building (transport, electricity, highways, irrigation and tele-communication). Realization of the goals emphasized in the plan was left to the private sector through its response to incentives.

Specifically, industrial incentive measures geared to the development of a specific sector (industrial policy defined in a narrow sense) consisted of such measures as subsidies given through tax exemptions, differential pricing or directly beneficial expenditure; quantitative restrictions on imports of goods and capital, on the allocation of investment funds through the banking system, on the use of transport facilities, and quantitative targets for exports and overhead investments. Subsidies, quantitative restrictions and quantitative targets were administred within centrally imposed constraints by several ministries, notably Agriculture, Commerce and Industry, and Finance and by special offices, such as the National Tax Administration.[9]

The biggest arsenal of incentives existed for exports. They consisted, at various times, of a reduction of corporate and private incomes, tariff exemptions for and tax rebates on materials imported for export production, financing of imports needed for producing exports, business tax exemptions, accelerated depreciation allowances, creation of various reserve funds, a fund to promote export industries and another to encourage smaller firms to export, foreign currency loans to finance exports on long-term credits, an export-import link system, differential treatment of traders based on export performance, export insurance, and so on.[10] The provision for accelerated depreciation allowed the manufacturing firms that

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[9] For the details of incentive measures, see Hong,W. (1979) and World Bank paper (1981,No.1469).

[10] Real export incentives were maintained at relatively constant level after 1964,while sporadic efforts were made to reduce import restrictions. A world bank study (1977, No.263), demonstrated that,despite market variations from industry to industry,the average tariff rates were quite low (averaging about 9 per cent in 1965) even by international standard.

succeeded to earn more than 50% of the revenue in foreign exchange to write off from the tax an extra depreciation up to 30% of the ordinary depreciation allowed by the tax law. Credit rationing, generally provided by government-operated specialized development banks took the form of low interest loans for export financing and the development of key industries. An estimate (Hong, 1979) shows that in 1972 the ratio of total interest subsidy associated with loans in manufacturing to the total fixed capital in that sector exceeded 25%. In quantity, the average annual increase in export credit reached as much as 40% of the increase in money supply in 1970- 1976. In addition, such agencies as the Korean Trade Association were established to provide technical assistance in marketing promotions.

Import-substitution was not overlooked either, although considerably played down in comparison with the attention given to export expansion. The firms moving into desired sectors could expect suitable backing as well, which consisted of grants and subsidies as well as cheaper loans, often from the development banks. In order to secure the domestic market, the government not only placed orders once productions began, but the products were quickly protected by an armory of barriers. They included a prohibited list of goods, quotas and tariffs. The tariff system was carefully structured to provide higher levels of protection for manufactured goods that were being introduced for domestic production and lower levels for those that were not, very low levels on raw materials, capital and intermediate goods, and very high level on consumer and luxury good that were not deemed beneficial to the economy.

Once the government decided to promote certain strategic industries, further incentives were adopted for each of them. They were roughly similar in form which included special tax reductions, faster depreciation of necessary equipment, loans and deductions for the import of capital goods, facilities and savings for the import of intermidiate goods, arrangements for licensing technologies, and so on. Next came special financing through the so-called "policy-loans" with exceptionally low rates of interest and lenient repayment terms. This might then be supplemented by other incentives if the particular product was considered worthy of domestic protection or could be turned toward exports.

During the early plans, although the strategic needs of focusing on export-oriented industries were recognized, the plans did not really pinpoint exact industries which had to be intervened for development. For instance, the Second Five-Year Plan (1967-1971) was mainly concerned with public-sector investment in infrastructure-building and the selection of appropriate growth rates. These problems were analyzed simultaneously, together with the selection of foreign trade and domestic production pattern at the sectoral level. The levels of private investment required for attaining the goals of the plans as well as the incentives necessary to induce implementation were estimated at the firm level. In designing the plan, importance was also attached to the internal consistency of sectoral activities with broad macroeconomic objectives as well as the rationalization of economic incentives.

The third and subsequent plans that began in 1972 essentially envisaged relatively a smaller role for public invesment.[11] The primary goal of planning for industrial priorities came to be seen as providing incentives to the private sector at a level compatible with resource needs and availabilities. The role of the public sector was, after setting incentives, to respond, where desirable, to "private-sector" request for credit,subsidies and foreign exchange allocation. An important task of planning at this point consisted of developing capacity for project evaluation and decision-making at least at the ministerial level.

From a longer-term perspective on the growth process itself, however, a strategy was gradually evolved for upgrading the economy by shifting from dependence on relatively labor-intensive light industry to a structure based on heavy and chemical industries. This made perfectly good sense. Korea's original comparative advantage was cheap and diligent labor. It was

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[11] The earlier Second Five-Year Plan (1962-1966) was fairly comprehensive in scope and rigorous in contents as it relied on the sophisticated input-output tables. This framework was an attempt to provide an intersectoral investment plan consistent with accelerated growth of the economy. Because of inadequate resources devoted to the planning, the framework quickly became inadequate for projections after two years of use for implementation. Subsequently, top policy-makers in Korea did not find that a comprehensive,centralized planning would be of much material assistance in executing policy decisons. Instead, they adopted a more decentralized, "indicative" planning methods.

therefore normal for Korea to engage in sectors like textiles, garments, footwear, and simple electronics. As the domestic wage rate rose and more capital was accumulated, it appeared more advantageous by the mid-1970s from the viewpoint of international comparative advantage for Korea to move into more capital-intensive sectors such as steel or petro-chemicals. Other developing countries, particularly in Asia, were becoming strong rivals in the export market for traditional, labor-intensive goods. At the same time, the industrialized countries were turning toward increased protection, particularly, against traditional exports from the developing countries.

This progression reflects the dynamic strategy for industrialization that Korea has been pursuing along a similar path that neighboring Japan was following. To make things easier, Japan was constantly churning out long-term projections and visions for futuristic industries. Korea slipped into the practice later known as "targeting product" that prevailed in the 1970s.

Thus, by the late 1960s, the government began selecting "strategic" industries which it was willing to back more energetically than others through a series of essential measures of general supportive nature.

First, the Electronics Promotion Law in 1969 recognized electronics as a "strategic export industry". Comprehensive plans for developing the industry attempted to direct the effort to adapt to the technological changes taking place in the industry worldwide. The government quickly established industrial estate with such suitable infrastructures as Kumi and Masan, and such specialized institutes as the Korea Institute of Electronics Technology, Korea Advanced Institute of Science and Technology and the Electronics Industries Association of Korea for research, adaption and development.

In the wake of the plans for electronics industry, the promotional policy quickly turned to heavy and chemical industries. In 1973, President Park officially initiated the campaign for the creations of a heavy and chemical industry. The strategic branches of the industry included iron and steel, chemical and petrochemicals, electrical and general machinery. Various projects were included in the Third and Fourth Plans with generous funding of the manufacturers that qualified. The usual support and incentives were provided for those firms that could export; and imports were restricted for those that which could supply the domestic market. It seemed that no effort was spared in order to attain the targets.

When a product was targeted, the government quickly provided direct and indirect incentives in financing taxation and administrative control to the manufacturer that qualified. The manufacturer could obtain subsidized loans from such institutions as the Korea Development Bank, the Export-Import Bank, the Technology Development Corporation and the National Investment Fund. A series of legislations and regulations, such as the Tax Incentives Law, the Government Budget and Accounting Law and the

Tariff Law, provided various forms of tax relief and tariff reductions for imported inputs to the manufacturer. Foreign investors also benefitted from similar incentives, simplified investment regulations, and often the outright 100% ownership.

These measures quickly led to its incresed share in exports. For instance, the share of heavy and chemical industrial products in total exports rose from 16.3% in 1972 to 25.0% in 1978. The electronics industry developed rapidly, starting from the assembly-line production of parts and components progressing to the production of such complete consumer products as color televisions, microwave ovens, video tape recorder, stereo set and digital watches. Following the development of heavy and chemical industries; the choice of "strategic" industries varied over time, ranging from sophisticated electronics to shipbuilding and to automobiles, among others. The support measures were steadily strengtened. Rather than to channel funds and adopt projects as opportunities arose spontaneously, an effort was made to direct the economy along the desired path, as the development of the economy evolves.

In this regard, the development of two other important sectors within the manufacturing sector -small and medium industries, and capital goods industry- are worth mentioning in some details.

(1)-Small and Medium industries

After an initial emphasis on heavy industrialization and, later, capital goods industry, there emerged a need to promote a more balanced development of large and small firms. The smaller firms account for more than 95 percent of the total number of enterprises in Korea, employing roughly a half of its industrial workforce and producing about a third of total industrial output. The relative importance of the role of small and medium firms has been declining throughout the period of industrialization until recently. In the past, the government has boosted conglomerates and larger firms by giving them access to credits, while small- and medium-sized firms have suffered from a mixture of discrimination and neglect.

Since Korea now has virtually all the basic heavy industry it needs, new entrants into the labor market will have to be absorbed by more diverse, smaller firms. In particular, the new industrial policy sees an increasingly important role of smaller firms in supplying technical power, components and semi-finished goods needed to promote the development of large industries. Moreover, the development of small and medium industries became urgent as the government was trying to promote rural industrialization as a way to enhance rural incomes.

Thus, it is expected that the development of these industries becomes one of the most important tasks in industrial policy during the next plan period. Currently, the government is enlarging technical and management extension services through such organization as the Small and Medium Industry Promotion Corportion and the Korean Production Technology Service Corporation. In addition, it is providing financial support for training managers of small and medium firms, and for their operational activities (market surveys and feasibility studies) in the forms of equity capital or convertible bonds by a joint-venture investment of the Small and Medium Industry Bank and the Technology Development Corporation.

Another form of government support for small business development is the granting of a collective monopoly over certain products, including leather products, shoes, towels and toys. Big businesses must obtain permission to expand production of any one of the protected lines, and the list of protection, currently numbering some 110 items, is expected to increase.

(2).Capital goods industry

Following the government support policy stipulated in the 1967 Machinery Industry Promotion Law, active investment provided the machinery sector with wider domestic markets and a foundation for further growth. With the rapid growth of the economy, domestic demand for capital goods has shown an upward trend because there has been a continued need to modernize production facilities and to increase productivity. Domestic demand for capital goods in general and the production of heavy machinery goods were abruptly increased, in particular, after the government intitiated support for the development of heavy and chemical industry beginning in the early-1970. The annual average increase rate of domestic demand for machine tools reached as high as 24 percent in the period between 1971 and 1981.

To encourage domestic production in machinery industry, the government, beginning in 1968, restricted quantitatively the import of competing machinery goods immediately upon the initiation of domestic production Firms using domestically produced machinery were allowed a 10 percent tax deduction of their investment. With a target set to fully localize the production of machine tools by 1990, the government has enacted a series of provisions for promotion funds to encourage active research and development activity. Other measures included liberalization of imports of technologies mostly to be obtained through licensing agremeents and foreign assistance with production techniques. In 1977-1980, licensing agreements in the machinery sector accounted for about a third of all agremeents (1974 in number) approved in Korea.

The government was also active with the promotion of technological development in capital goods industry. In addition to the creation of such research institutes as the Korea Institute for Machinery & Metals, and the Korea Advanced Institute the Science and Technology, long-term loans at low interest rate and fiscal concessions were offered to the firms for their efforts for research and development.

An evidence for a somewhat excessive protection accorded to machinery and equipment can be seen in the tariff rate structure of imported items. A world Bank study[12] shows that in the 1970s the domestic prices of many types of machinery were far below the import prices inclusive of tariffs. The products which exhibited negative implicit tariffs ranged from metal working and processing machinery (-52 percent) to textile machinery (-39 percent) to industrial machinery (-22 percent). These negative implicit tariff rates undoubtedly explained quality differences that may have existed between the domestic and imported items. In any event, greater protection seemed necessary in the early stage of development because of the industry's high dependence on imported capital goods, which had limited domestic production of capital goods largely to low-grade products.[13]

C. Consistency in Policy-measures.

The remarkable success of industrial policy, as evidenced by the results witnessed during the last two decades, can importantly be attributed to the appropriate sequencing of macro- and sectoral policies of the government.

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[12] See Westphal (1977,pp2-14).

[13] By 1978, the effective rate of protection in the machinery sector was estimated at 47.4 percent, lower than that in India or Brazil. The actual level of protection may be considered much higher, however, since Korea also relied on non-tariff measures for protection.

In Korea's planning, it is significant to note that macro policy measures in the form of an overall price reform, preceded the sectoral development plan, which served as a precondition for rational resource planning at the sectoral and more disaggregated level. The trade reform served as the key measure in shifting the economy from a strategy of import substitution towards that of export promotion. The financial reform became the classic example of a successful policy of mobilizing resources, stabilizing prices, and promoting investment.

Thus, in the selection of industrial activities classified as having a priority no particular consideration needed to be given to the shadow prices of the factors of production, nor to the resulting sectoral structural distortions. The prevailing exchange rate and interest rates were used in industrial project evaluation without undue concern for excessive distortion that might result from the project. The macro policy measures for liberalization simply provided a setting in which industrial activities could be selected, not on an ad-hoc basis but in relation to their relative contribution to the objectives of rational economic use of capital, as well as the generation or saving of foreign exchange.

5. POLICIES FOR SPECIFIC SECTORS.

Some of the material covered in the present chapter has already been dealt with. The purpose of the present chapter, however, is to concentrate on the salient features and trends of government policies for industrial development in specific policy fields.

A. Trade Policy.

Obviously for a small, resource-poor economy like Korea, the choice of trade strategies is bound to affect the evolution of its industrial development and structure. Historically, South Korea started with modest industrialization efforts centered exclusively on import substitution. In the decade following the end of the Korean War in 1953 the economy had largely been preoccupied with its post-war reconstruction and limited efforts for industrialization, mainly, in import-substitutable basic consumer goods. By the late 1950s, the problem with import substitution became apparent as the initial domestic demand for substitutable goods had been satisfied, and the heavily protected local manufacturers became too inefficient to compete in the world market.

Attempts to move up on the import substitution ladder were eventually stymied by insufficient foreign exchange, which was needed to buy foreign technologies and capital equipment. Korea reached this point in the early 1960s. However, unlike the case of Brazil or Argentina, because Korea's industrialization had been much less capital-intensive, she was able to transfer more smoothly its development priorities from import substitution to export promotion.

The change to export promotion policy was already moot by the late 1950s, as the country only managed to survive on the basis of meager industrial structure that could not last long without imports of essential raw materials, and as the U.S. threatend to cut off the indispensable flow of aid. The Park Chung Hee regime's alternative choice in 1961 thus was to consiously create an industrial base for production of exports that could be sold abroad to finance Korea,s vital imports that must include massive shipments of grain as well as fertilizer.

The government quickly instituted a battery of material incentives to encourage exports as the nation's all-out war for survival.[14] Measure for moral incentives were equally forcefully adopted.[15] The Ministry of Commerce and Industry also set annual export targets for officials related with export administration. If targets are not fulfilled, the administrative process will be expedited to strengthen existing export-support schemes, to innovate new subsidy measures, and to exert irresitible pressures

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[14] For details on export-incentive system, see Section B of Chapter 4.

[15] The public was constantly reminded of the importance of exports through ceremonies, monthly export promotion meetings, and the presentation of awards to those who achieved most. Exporting was to be considered as a patriotic duty.

on businessmen to accelerate exports even though this may entail losses.

Various institutions promoting exports were also established. One is the Korea Trade Promotion Corporation (KCTRA), a non-profit government agency established in 1962. KOTRA now has over eighty branches around the world and a home office that engages in reseach and promotion. Among other activities, it displays Korean products, participates in international trade fairs, dispatches trade missions to potential markets, and receives enquiries and visits from foreign businessmen seeking Korean products. It also sponsors the Korea Exhibition Center which hosts major trade fairs including the Seoul International Trade Fair that attracts as many as 10,000 foreign buyers. In the private sector, the Korean Traders Association, which runs the World Trade Center in Seoul, provides backup to its over 2,300 member companies.

Another important institution created by the government was trading companies that specialize in exports, known as 'Chonghap Sangsa.' In the days of import substitution there were many small importing firms that took advantage of the overvalued exchange rate to make profits by imports. With the shift of trade policy to export promotion, there was the general need for trading agencies that could direct imports of raw materials, direct and promote exports of manufactured goods.

Interestingly, rather than support trading companies, large and small indiscriminately, the government decided to support very large ones that were generally affiliated with various industrial conglomerates as their trading arms. These large traders were not only relatively more efficient owing to their scale-economies but had access to a much broader range of foreign markets. Larger companies were enticed to enter the field by various incentives that included advantages in the areas of trade administrations, export financing, taxation and foreign exchange control. The government in return demanded superb performance through the familiar tool of export target-setting.

Moreover, based on the government's own projections of how fast export should grow, the targets based on what the firms thoght they could achieve were raised from year to year. The creation of chonghapsangsa was another tool to make export-oriented strategy work well for Korea. In a short time, full-fledged trading firms emerged, quickly establishing a distribution net work throughtout the world. These institutions were instrumental in helping many manufacturing firms to get a foothold in foreign markets.

The official policy to a create an industrial base for export promotion, designed by Park's team of technocrats, proved immediately successful. Largely owing to the expanding international market in the 1960s, growth in exports attained an extraordinary rate that far exceeded everyone's expectations. From 1962 to 1982, the average rate of export growth was about 30% a year with peaks of over 50%. The nation's annual export value soared from an extremely modest US$ 55 million in 1962 to a massive US$ 27 billion in 1982. Whereas the ratio of exports to GNP was a pitiful one percent or so in the 1950s, it rose to 30 percent and more in the late 1970s(in current prices). Export, Korea's "engine of growth," has become something of a cliche in government and business circles with its overall contribution to real GNP growth estimated at about 45% for the 1962-1982 period and around 60% for the 1970s.[16]

While the government intervention and discrimination were used as a means of export promotion, policy-makers with a view to long-run developments were also kept busy to see a little further into the future to provide guidance to the directions of industrial restructuring for exports. Using the control of finance as an essential instrument in the restructuring of industry, the government continued to designate the plans for a futuristic industrial base.

For instance, by the late 1970s, a shortage of skilled labor combined with the Park regime's quiet decision to lift the lid on wage increases caused labor costs to rise much faster n Korea than in the major exporting nations of the region. From 1975 to 1980, for example, the annual rate of increase of unit labor cost was 17.5%, but only 7.1% in Taiwan and 0.8% in Hong Kong. Thus by 1979, textiles that alone accounted for over 40% of labor-

[16] This export success, however, should not make one forget that imports also kept growing at a rather considerable pace. From 1962 to 1980, imports attained an average growth of 20 percent. This was much slower than export growth, which is perhaps one of Korea's major achievements. It will not, however, be easy for Korea to hold imports down since the bulk of them are fuel and raw materials that go into the production of Korea's exports.

intensive exports in the 1970 along with other eight manufactured articles like plywood, wigs, electrical appliances that accounted for another 25% declined to 30% while more capital-intensive heavy industrial products including iron, steel and ships began to replace light industrial products.

More recently, the increase in the cost of fuel, raw materials, and even capital goods imports during the past decade has been paralleled by a relative slump in the prices Korea could demand for its manufactured exports, worsening its terms of trade and obliging it to sell much more to gain just a little more. While the need for imports remained unchanged, possibilities of expanding exports were artificially constricted in various ways. The most obvious, and also most menacing, was the rise of protectionsim in developed country markets.

Such limitations clearly cut into Korea's potential sales and made it turn toward other markets and products. This explains Korea's attempts for a shift toward the Middle East, Latin America and Africa. But they could hardly replace more lucrative markets in the United States and Europe. Thus,when President Chun Doo Hwan came to power in 1980 he had a mandate from the business community to hold the line on wage demands. Real wages in the industrial sector declined for about a year, giving exporters a breathing spell. Korea's planners recognized that the golden era of cheap labor would never return. Even if it did, prospects for labor-intensive export growth would remain bleak in view of mounting import restrictions, especially on textiles, in the developed countries. The nation's best hope for continued high growth, they believed, was to shift its export pattern from labor-intensive to high-technology products. This second economic takeoff will be achieved by attracting vastly increased capital flows and technology transfers from abroad, and for this the government has drasticaly liberalized its foreign investment code.

Faced with a not very promising outlook for an export-oriented economy, the overall trade policy is also becoming more electric. Promotion of capital goods industry development in the 1970s reflects government policies to turn inward toward domestic markets as a no less important source for economic growth. inward towards domestic manufacturer. It was felt that the deepenig as well as the broadening in Korean industrial structure created a sufficient basis for import-substitution in the sector.

B. Financing and Credit Policy.

Perhaps one of the most important instruments used for implementing sector-oritented industrial development in Korea is public-sector control and and allocation of credit. Financing of investment for development projects has been provided mostly by the banking institutions, which have directly or indirectly been controlled by the government. Along with taxation and foreign borrowing, the domestic financing provided by banks supported the major spurt of industrialization.[17] The prevalent form of

[17] Major financial reforms in 1964-65 drastically enhanced the

financing has been provision of loans with subsidized interests and guaranties. Usually, these credit facilities are often combined with other fiscal and tariff incentives as well as some public-sector assistance in scientific and technical research.

The government itself, with a budget representing a one-sixth of GNP, allocated the same percentage of its budget to the spending for development projects. As already mentioned, the lion's share of this development spending went to transport and communication, energy, agriculture, and other defense-related industries. By and large, the banking institutions provided a predominant share of investment capital in industry.

In terms of the hierarchical structure of the financial world, the Ministry of Finance sits on top of the system, supervising and regulating all the activities of the banking system including those of the central bank(the Bank of Korea). More indirectly involved and more concerned with implementation of financial plans is the EPB, as it defines the approaches and tartgets which become criteria for granting "policy loans" by the banking institutions, which are generally aimed at rendering special support to those "prioritized" sectors (shipbuilding, steel, automobile, petrochemical and heavy machinery etc.).

The government also established a group of "development banks" for purposes of directing funds toward "prioritized" or other strategic sectors as laid down in the plans. The development banks can in return provide qualified firms with

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intermediary role of banks in private capital markets.

loans and also hold equity in these firms. For instance, the loans from the Korea Development Bank alone currently accounts for 15% of the nation's total outstanding. The Korea Long-term Credit Bank has similarly been instrumental in tapping private capital to assist firms with loans and equity participation. The Korea Export-Import Bank represents another category of the development bank that specializes in medium- and long-term credit for foreign trade transactions, with an emphasis on exports. These specialized banks have received their funds partly from the government, from private deposits, and from issuance of bonds in international financial markets.

Larger private-sector banks, with a bulk of their credit given as "policy loans", were also drawn into the financing of industrial developmment, and to a certain extent, had to comply with orders and regulations of the Ministryof Finance. Thus, excluding the informal, curb-market loans that are generally available at exorbitart interest rates, the entire financial community has more or less operated under some control and supervision of the government.

This system of "policy loans" for providing special support to targeted industries worked very well for Korea in the early days of industrialization, and has in effect accounted for half of the total bank lending. Without this public-sector initiated financing it would not have been possible to develop light manufacturing industry, construction, steel and shipbuilding industries, and also to build the basis for heavy and chemical industries in Korea.

The system of "policy loans," however, contained several drawbacks. Since "policy loans" for targeted sectors were subsidized compared to other considerably more expensive loans, evidence indicates that many a worthwhile projects failed to be undertaken simply because they were not targeted for development. For instance, the sectors targeted for promotion mostly included relatively large-scale projects. Smaller firms were seriously handicapped to obtain credit. Only recently, some attempts have been made to provide small and medium firms with much easier access to bank loans.

A related bias in investment decisions that resulted from the undue emaphasis on "policy loans" concerns the neglect of the microeconomic specifics in approving the worth of individual projects. The government's policy of targeting on products specifies only what sectors of the economy should be promoted for expansion.As a result, loans tended to be approved on the basis of superficial compliance with the administrative guidelines, and not on the meritis of individual projects. These weaknesess were manifest in the late 1970s when a number of government-sopported projects had to be discarded. The policy aim of the 1981 bank reforms was to alleviate distortions in investment allocation by broadening the realm of managerial discretion by the commercial banks.

Finally, the policy of favoring targeted enterprises also turned out a mixed blessing. "Policy loans" tended to encourage excessive borrowings by these firms, which often resulted in very unstable debt-equity ratios. By the late 1970s, a situation of liabilities five to ten times as great as networth were not uncommon to many, large firms. Burdened with interest payments excessive in relation to the firm's equity position, this eroded their profitability and made their operation precarious in bad times.

C. Foreign Investment.

Korea has a poor natural resource endowment, and consequently it has to continously import foreign resources and technologies. Although the earlier interest-rate and fiscal reforms suceeded to stimulate domestic saving,[18] Korea has been in a constant need of foreign capital as its economy continues to expand.

Historically in the period preceding the beginning of the move for industrialization, capital inflow started with the massive foreign aid in the form of relief and food programs. By the late 1960s, the concessional aid was phased out, and gradually replaced by development aid in soft loans. In addition to the loans chanelled through multilateral donor agencies, such as USAID, Japanese Overseas Cooperation Fund, the World Bank, and the Asian Development Bank, a growing share in

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[18] Domestic saving as a percentage of GNP rose from a mere 3% in 1962 to 16% a decade later.

loans took the form of supplier credit from the American or Japanese Exim Banks.

During the 1970s when Korea's progress became evident and was proving its credit worthiness, she was able to obtain more commercial loans. Government policies concerning loan capital have generally been open and unrestrictive. There has been no shortage in demands for loans with reasonable terms. The inflow had been massive by the late 1970s, with the outstanding external debt rising to $ 37 billion in 1982 from a mere $ 4 billion in 1972. The debt burden, however, remained manageable as its export earnings continued to grow rapidly. For instance, the debt-service ratio was 18% in 1972 and fell to 15% a decade later.

Although relatively unimportant in amounts compared to the loan, direct foreign investment has been instrumental in promoting the development of indigenous industry in a different way. The first serious efforts to attract foreign investors were made beginning in the launching of the First Development Plan in 1962. Reasonable conditions that included tax relief, duty-free imports of capital goods, easy remittance of profits and other incentives were offered. Foreign ownership was restricted to less than 50 percent except in the free export zones where the full ownership by foreigners was permitted.

It took some time for an appreciable amount of investment to flow in. By the end of 1982, however, the total direct foreign investment amounted to US$ 1.4 billion. As shown in Table 6, Japan accounted for almost a half of total foreign investment in the period between 1962-1982 followed by the United States with a quarter share. While investment opportunities were open in most sectors, there was a clear preference for investment in manufacturing industry. As a result, manufacturing received a predominant share of foreign investment; textiles in the early period, and electronics and petrochemicals in the later period.[19]

TABLE 6

SOURCES OF FOREIGN DIRECT INVESTMENT (1962-82)

(in $ million)

Year / Country	1962-66	1967-71	1972-76	1977-80	1981	1982	Total	Share
Japan	0.7	40.8	376.9	180.3	34.6	41.6	675.9	47.1%
U.S.A	21.9	12.4	67.9	122.9	85.2	107.6	418.0	29.0
Netherlands	0	6.3	58.7	37.6	1.3	1.5	105.3	7.4
Hong Kong	0	0.3	3.5	8.8	8.1	24.5	45.1	3.2
West Germ.	0.3	2.4	2.8	12.3	3.1	3.1	24.1	1.7
Others	0.1	10.5	55.4	80.5	13.1	9.4	168.1	11.6
Total	23.0	72.7	565.2	442.4	145.3	187.8	1,436.4	100

Source: Ministry of Finance

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[19] Of the 855 industries listed in Korea's Standard Industrial Classification, 521 items including large scale projects in capital-intensive industries such as machinery, metals, electronics equipment and chemicals, energy related or export-oriented projects, projects for manufacturing foodstuffs and medical products, or projects contributing to the development of domestic resources or the commodity distribution system, have been all open to foreign investment.

The basic policy on foreign investment followed the line of an outward-looking stratgy for development. Foreign capital was welcomed as long as it could contribute to the development of "priority" sectors, the transfer of technolcgies and the enlargement of marketing contacts. In recent years, in a bid to facilitate the realignment of industrial structure, the government further intensified measures to attract foreign investment by dismantling many restrictions on capital inflow.

In this regard, the recent Foreign Capital Inducement Act (1982) adds three important benefits to investors: The first benefit is allowance for foreign equity sharing up to 100 percent. This provision applies to those projects that introduce high-level technology into Korea, or those which are undertaken in free export zones or otherwise increase exports.[20] The second provision exempts foreign invested enterprises from income, corporate and capital gains taxes as well as from import duties under reasonable conditions.Provions covering a technology contract are more generous.Foreigners can be exempt even from wage and salary income taxes. Finally, the legislation guarantees the outward remittance of dividend and the repatriaticn of capital.

It is worth noting that the intent of the new investment code is to induce the import of technical know-how through joint-venture projects, as Korea enters into a new specialization in

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[20] There are two free export zones available to foreign invested enterprises for bonding either their imported materials or the entire factory, should the whole production be exported.

more sophisticated capital goods and high-technology industrial products. Emphasis on exports is not forgotten either. Foreign investment in export-oriented industries has always been welcomed in Korea.

The government, confident of improved investment climate in Korea, has already set itself an ambitions target of attracting US $ 2.5 billion in foreign investment during the Fifth Plan period (1982-1986). To provide more detailed procedures and information about foreign investment in Korea, a number of investment promotion officers have been stationed abroad with the Ministry of Finance and Korea's embassies and consulates abroad also eager to provide assitance. Dependence on direct investment is not likely to diminish in the foreseeable future.

As a rule, direct foreign investment is a more recent phenomenon in Korea, and has not been that important compared with Inida or Brazil. In Korea, foreign companies have participated mostly in joint ventures. However, direct investment can continue to play a particularly important role in one vital area of Korean development. They have been instrumental in introducing production technology and management techniques, and in facilitating the transfer of overseas information and knwoledge.

To conclude, what then is the overall assessment of foreign capital inflow in Korea? As a result of the earlier borrowings, Korea is now a major debtor and has to remit interests, profits and royalties in substantial amounts to foreign investors.

Although over the years, the amounts involved in foreign debts and investment rose rapidly, so did the ability to handle them as the economy grew more rapidly. In fact, unlike the cases of many Latin American countries, in one way Korea was actually freeing itself of external dependence. While foreign saving was three times as large as the domestic counterpart in the early 1960s, two decades later the relationship had been reversed with domestic saving contributing the most to capital formation. In Korea, foreign borrowing has been put to use mainly for development of industry and vital infrastructure. The expansion of foreign investment has meant increases in employment and income in Korea.

D. Policies dealing with Business.

An interesting aspect of Korean industrial policy concerns the government relations to business. In Korea, large industrial conglomerates known as 'chaebol', usually represented by the most dynamic and aggressive enterpreneurs play the crucial role in the industrialization process. They have often in the past been used as an instrument of government policy, and in return the government inadvertently strengthened the hand of these conglomerates.

Currently there are some fifty major conglomerates with each unit composed of half a dozen to fifty member firms that are horizontally and vertically integrated in the industrial structure.[21]

The breadth and speed of the rise of the 'chaebol' in Korea seems unprecedented in the history of enterprise. As Table 7 shows, in the period between 1973-1978 the annual rate of growth in value added contributed by the 10 largest conglomerates was as high as 30.0 percent. In terms of the share of their contribution to GDP, they accounted for 14 percent in 1973, rising to 23.4 percent by 1978. The top 46 firms, taken together, accounted for 31.8 percent of GDP in 1973, which rose to 43 percent over the same period. These measures clearly show the extent of progress in industrial integration as well as the process of concentration of wealth in Korean industry.

The phoenix-like rise of the 'chaebol' was mainly caused by government policies. In the earlier days of industrialization, the business environment was conducive to opportunities for forward or backward integration in industry. A broad spectrum of sectors opened up for entrepreneurs to participate in, as export demand suddenly rose in diversified areas. Access to financing was made easy, as the government in efforts to promote exports provided easy credit. Once the government was convinced the entrepreneur could succeed, this usually could turn into a snow-

[21] The largest four conglomerates are Hyundai,Dae Woo, Samsung, and Gumsung, which together recently accounted for close to 10 percent of total exports. Furthermore, 10 Korean conglomerates were recently listed among the top 500 corporations in the world excluding the United States in the Fortune magazine.

TABLE 7

CONTRIBUTION TO VALUE ADDED BY CONGLOMERATES

No.of Conglamerates	Annual Growth rate (1973-1978)	As percentage of GDP 1973	1978
5	35.7	8.8	18.4
10	30.0	13.9	23.4
20	27.5	21.8	33.2
46	21.4	31.8	43.0
GDP Total	17.2	100.0	100.0

Source: Korean Development Institute.

balling effect, in which success bred success, since the government credit was largely based on the past achievements. This type of credit policy made it possible for successful entrepreneurs to launch several ventures at the same time, which eventually led to a race for the empire-building in business.

Thus, despite the alarming trends of concentration in industry, the government ended up by supporting the 'chaebol.' This was also because large companies with scale-economies and cost-efficiency could be counted on to successfully complete crucial projects for national development. Funds followed more readily into larger companies, since they were generally in a better position to outbid smaller firms in government-financed project contracts. Economic logic also favored large-scale production. A minimum scale in plant size was simply required in such heavy sectors as automobile, steel and shipbuilding.

Policies for promoting industrial integration appeared necessary for the development of heavy industry, as Korea was preparing to move into advanced sectors. Besides, the 'chaebol' had to compete in international markets with foreign multinationals which were often rather large compared to Korean counterparts. Size was also an important factor to consider in joint ventures with foreign partners, since the latter might dominate and control the domestic counterpart otherwise.[22]

The government's popular method of supporting a project was to make credit available on favorable terms to specific borrowers. During the period of rapid growth, the banks, whether public or commercial, had remained under a tight control of the government, and credit was distributed mainly in line with the planned priorities. The credit standing and connections of the businesses played a key role in obtaining credit, and naturally large firms had the edges over small, unknown ones.

While policies to support big business may have been a factor contributing to rapid industrial growth and the success in the world market, they also served to cause a serious structural imbalance in the Korean economy. They have led to creation of industrial dualism, in which large and powerful conglomerates have a virtual control of the market, and the remaining masses of small and medium firms are relegated to insignificant importance.[23]

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[22] Another important benefit from supporting big business relates to political funds the President could count on from them.

[23] Alarmed by the growing concentration of wealth, the recent

There is another problem with large companies in Korea today that is attributable to the government's support of big business in the past. As a result of easy access to bank-lending, large enterprises in Korea have been accustomed to depend heavily on external funds. According to a recent survey,[24] in 1980 external funds - those borrowed from domestic banks and foreigners - for the top 50 enterprises in Korea accounted for as much as 85% of the total. This ratio was much higher than that of Japan or the U.S.A, which showed 38.1% in 1977 and 29.1% in 1974 respectively. Furthermore, the degree of dependency on external financing by large companies generally increased over the recent years. High debt-equity ratios have adversely affected profitability in large companies and raised the risk of bankruptcy in bad times.

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policy reforms seek countermeasures against trust-formation as well as more active support of small and medium firms.

[24] Hankook Ilbo, September 27, 1981.

6. ORGANIZATIONAL STRUCTURE AND IMPLEMENTATION.

A. Organizational Structure.

The plans and strategies exist elsewhere. However, what probably is unique in the case of Korea, certainly distinguishable from other countries, is the ability to get the plans and strategies put into practice. The idea of effectively organizing and managing an economy started with Park Chung Kee when he came to power in 1961.

Among his earliest policy-measures was the creation of the Economic Planning Board (EPB), as a machinery examining the state of the economy and drawing up appropriate plans for improving it. The EPB has a substantial bugdet of its own with the talented and technically trained bureaucrats as well as access to support from other ministries and academic institutions.

The director of the Planning Board also assumed the position of the deputy prime minister of the cabinet, which enabled him to pull rank on his colleagues. This assured a more effective cooperation with the EPB solicited from each ministry which had its own special planning unit to encourage a decentralized planning process in its own sector. The biggest strengh of the Planning Board has, however, been the interest and support of the president. The Board usually dealt with what for him were the most important policy matters.

A significant fact to note is that the bulk of the planning work since the early 1960s has been carried out by young Koreans trained in economics and planning. Previous to the Planning Board, foreign experts were invited to draw up more sophisticated plans which might hardly be faulted on technical grounds. Apparently, what made these plans inadequate was the lack of understanding of how Koreans thought and behaved.

Although the entire process of planning gives an appearance of a highly centralized organizational structure, it has been the ministries and public-sector enterprises which are entrusted with the responsibility of getting specific projects done effectively and efficiently. Particularly responsible for execution of planning are such ministries as Finance, Commerce and Industry, Construction, Agriculture and Fisheries, and Energy and Resources. Public enterpries are generally supervised and controlled by one of special development banks. They generally enjoy a certain degree of autonomy to do their job as professionally as possible. Their tasks, in all cases, are intimately related to the planning of economic development, provision of basic transport and communications, essential services, utilities and banking, and sometime even engagement in productive operations like mining or manufacturing.

B. The Framework for Policy Formulation.

At the outset, it must be emphasized that all Korean governments since the independence in 1945, had to be ideologically commited to maintain a capitalist economy in which the private sector should play a central role. Politically and economically, the regime has had no options but to remain comparatively liberal.

In this context, planning in Korea, on appearance, played the role of providing little more than a framework, leaving most practical decision in the hands of private economic actors. Thus, plans were supposed to indicate only directions, offering incentives to those who complied with them, but could not, in principle, force anyone to follow them. Plans simply showed where the economy was headed and what its goals should be. For instance, the annual Overall Resource Budgets and management plans drafted by the EPB indicated precisely what the government intended to do during the planned period and what contribution it expected from the private sector and general public.

There were also documents like the Korean Development Institute's 15-year projections for 1977-1991 and the EPB's projections up to the year 2000, which provided a longer-term framework consistent with various five-year plans. Of cource, aside from the role of planning in providing a general framework for policy directions, more specific laws, regulations, and directions had to be formulated to promote exports or other priority sectors, channelling the efforts of various ministries and those of the individual enterprises dependent on them in the direction consistent with the planned goals.

An important element in a successful formulation of planning is obviously the seeking of as much a broad-based social consensus as possible. That is, however sophisticated and well-designed the plan may be, if it lacks a broader view to integrate and reconcile diverse social interests, it is likely to fail.

In the case of the Korean planning, the first task faced by the planners was obtaining the views and feedbacks from diverse interest groups concerning the planning. This implied receiving feedback from, and interaction with local leaders and various advisory committees that usually consisted of officials, industrialists, businessmen and acedemics. What proved most effective in influencing the process of decision-making turned out to be a myriad of lobbies established by various interest groups, such as agricultural cooperatives or trade associations. And, while usually reticent on political issues, the press, interest groups, and politicians freely expressed their views on economic issues.

Once the goals of the policy were agreed upon or at least understood by the private-sector leaders, the planning process focused on the internal consistency of the overall policy framework with the goals set at sectoral or firm levels. Here again, the planning was based on both the "top-down" and "bottom-up" approaches. In the early plans (the First and Second Five-year Plans), the drafted plans with the details on the sector-level targets[25] were subjected to the reviews of industry committees typically composed of engineers, economists, technical experts, ministerial officials and industrialists before the targets and estimates of the parameters in the plan model could be accepted for implementation. More importantly, the preparation of planning for the sectoral profile gave industrialists a needed opportunity to review investment prospects for various industries.

C. Implementation of Policy.

Given the basic policy orientation to maintain a capitalist economic system, in Korea the plans provided a framework for the directions of policy and the overall procedures of implementation. Of course, incentives were offered to those complied with them. There were, in principle, no mechanism for enforcing a complete cooperation from the private sector.

The implementation of the plan, however, was more effective when it had to be executed within the public sector, which included a myriad of state-run enterprises. Heavy pressures were exerted on bureaucrats to execute their jobs well, and in many cases,to complete at least the agreed-on targets. Since there was no effective way of enforcing a system of direct material

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[25] For instance, in formulating the Second Five-Year Plan,the comprehensive resource planning framework based on a sophisticated dynamic inputouput model was employed to calculate required amount of investment at the sectoral level.

incentives in the public sector, successes and failures at a task were rewarded through promotions and demotions, combined with a more direct method of moral censure and recognition for achievement.

In soliciting full cooperation of the private sector that included industrialists, labor unions as well as myriads of independent producers, the government had to resort to both material and moral incentives. Forms of material incentives were already refered to in the previous discussion. Here, examples of moral incentives, along with some disguised forms of coersion will be illucidated.

First, such highest priorities of government task as economic growth, industrialization, export development or priority-sector development were usually given a widest publicity. Given the importance of these goals, a whole array of awards and moral recognition would be created to reward those who accomplished most. For those who produced more, sold more exports, and did more construction projects abroad, there were all kinds of citations, such as the order of Industrial Service Merit in their highest form, for purpose of arousing a feverish emulation for production achievement.

In reality, the methods of mobilizing the private sector in pursuit of the planned goals took more than the forms of persuasion and moral incentives. In many instances, the government did not really leave things entirely to the good will of entrepreneurs. The industrialists were often urged on to set their own internal targets for achievement, which were often set high and were raised from year to year. There was no shortage of material incentives, as discussed already, in the areas singled our for promotion.

In addition, if an industrialist failed to achieve the desired goal, this would provoke all the subtle forms of censure by the govenrment. First, the bureaucracy intervened in the form of exhortations, which often included even a direct call from the president to the concerned business leader. If an industrialist failed to comply with policies, it would invoke the brandshing of the stick by the government. For instance, most ministries have the administrative power to regulate activities of individual companies. For instance, the Ministry of Commerce and Industry, which must approve the establishment of individual firms, could insist on certain policies regarded as desirable by the government in return for its approval. The EPB could also influence activities of an individual industrialist by denying and approving joint ventures and technology licenses involving foreign investment. The Ministry of Finance regulates the Banks, and the flow of funds could easily be denied to credit-hungry companies if they failed to follow policies recommended by the Ministry. Above all, the most influential administrative institute has been the tax authorities, which periodically inspect the returns of all companies.

Thus in the case of Korea, one way or the other, the government could prevail on the private sector to follow its policies. It was indeed without a great deal of social tensions to have the private sector fall into line. For instane, when import-substitution was the government strategy, firms were urged either to enter the sector or to make purchases from local manufacturers even if their prices were higher and the quality not quite as good as imports. With the swicth to export promotion, the industrialists were encouraged to sell more abroad even if this were a completely new activity for them and did not look profitable. For strategic industries,they were advised of the advantages of diversifying and upgrading, and quickly reprimanded if they did not.

Apart from a strong hand the government wielded over the private sector, what held together the close public-private sector cooperation, was a shared interest in a strong and prosperous economy from which all would benefit.

By the late 1970s, it finally became clear that the implementation machinery was actually working too effectively. Private companies blindly followed the government's lead without paying much attention to the underlying economic ills characteristic of inflation and distortions in the economy: Too many production units were crowded into too few a strategic sectors, resulting in too much capacity too fast. Some of these sectors did not really possess a comparative advantage, revealing distortions in the allocation of resources.

Recently, excessive aspects of the command structure were gradually being discarded, in favor of more initiatives of the private sector, and businessmen were urged to pay more heed to market signals and profits. The economy was in for a period of relaxation that would hopefully enable it more effectively to react to constantly fluctuating domestic and international economic situations.

7. THE IMPACT OF INDUSTRIAL POLICY.

The success of Korea's industrial policy in the sense of being capable of reaching at least the targeted goals can in a large measure be attributed to the coherent formulation of policy planning as well as the effectiveness in implementation under a strong and motivated government. Such a measure of success can be seen in the comparison between planned target and actual performances. As shown by table 6, in all the plan periods except that of the Fourth Plan that mainly ccincided with the recent wolrd recession, the economy's performance in GNP, exports and industrial output actually exceeded the target goals by substantial margins. Indeed, without the coherent policy-planning that utilized the pricing system as a basis for resource allocation, without the targets that served as a basis of orientation for action, and without the effective implementation enforced through incentive measures and moral coersion, it would be difficult to imagine what Korea is today would have been possible.

At this point, it would clearly be a matter of speculation to attemp to precisely determine the far-reaching implications for the Korean development of industrial policies implemented by a strong government in Korea. It is significant, however, to make a of note the initial conditions that prevailed at the start of Korea's recent industrialization, and to compare them with subsequent developments.

TABLE 6

Comparisons of Planned Targets and Performance

(1962-1981)

(Unit: Real Average Inc. Rate.%)

	The First Plan (62-66)		The Sencond Plan (67-71)		The Third Plan (72-76)		The Fourth Plan (77-81)		The Fifth Plan (87-86)
	Planned	Performance	Planned	Performance	Planned	Performance	Planned	Performance	Planned
GNP	7.1	7.8	7.0	9.7	8.6	10.1	9.2	5.5	7.6
Growth Rate by Industrial Sectors									
Agro-Forestry & Fishery	5.7	5.6	5.0	1.5	4.5	6.1	4.0	0.1	2.6
Mining & Manu-facturing	15.0	14.3	10.7	19.9	13.0	13.0	14.2	9.7	10.8
(Manufacturing)	(15.0)	(15.0)	---	(21.8)	(13.3)	(18.7)	(14.3)	(9.9)	(11.0)
SOC & Others	5.4	8.4	6.6	12.6	8.5	8.5	7.6	5.2	7.3
Population	2.8	2.7	2.2	2.2	1.55	1.7	1.6	1.6	1.56
Per Capita GNP	4.2	5.0	4.7	7.3	7.0	8.2	7.5	3.9	5.9
Fixed Investment	14.6	25.7	10.2	17.9	7.6	11.1	7.7	9.9	9.0
Export of Commodities	28.0	38.5	17.1	33.8	22.7	32.7	16.0	12.0	11.4
Import of Commodities	8.7	18.7	6.5	25.8	13.7	12.6	12.0	10.8	8.4
Employment	4.7	3.2	3.3	3.6	2.9	4.5	3.2	2.3	3.0

Source: Economic Planning Board

As already noted, the really serious comprehensive plan began with the Second Plan (1966-1971), which among other goals stipulated its central objective as attaining maximally possible economic growth. In the preceding period from the early 1950s to the early 1960s, per capita GNP had grown at the unacceptably modest rate of less than 2 per cent per annum in real terms. The new plan concentrated on establishing a consistent investment programme that would match the economy's savings and export potential. The major growth constraints foreseen at that time consisted of a shortage of viable proposals for industrial projects, a scarcity of domestic savings and a need for foreign exchange to finance imports of raw material and capital goods.

Followed by the subsequent plans, with some associated changes in policies, the initial plan appeared to have exerted a vital impact on the growth of the economy. The rate of growth of GNP quickly rose from less than 2 per cent in the preceding years to the 10 per cent during the plan period. Per capita income was doubled in less than 8 years; export rose annually by 30 per cent; the rate of inflation was reduced by over 10 per cent to less than 6 per cent. The real income of the poorest groups rose about at the same rate as GNP, and measured, open unemployment was reduced from 8.3 per cent in 1962 to about 4 per cent in 1975.

Moreover, through the instruments of the planning apparatus, the government gradually shifted the emphasis on foreign trade from import substitution to export expansion, with a concentration initially on labor-intensive industries.

The liberalization of exchange rate to the free trade level, free access to imported inputs for exporters and subsidizes loans to strategic goods exporters partly constituted the package of strong export incentives. The government also established annual export targets broken down in considerable detail by domestic exporters, with enough censures to motivate them for acceptable performance.[26] These policies undoubtedly contributed to the rapid expansion of exports, with increases in real terms averaging about 30 per cent a year between 1960 and 1975.

(a).__Capital-Goods Sector Development__.

More recently, the government recognized the strategic and economic significance of promoting rapid development of capital goods industries. Previously, tariff and credit policies had favored the purchase of imported capital godds. It had then abolished tariff exemptions on capital goods imports, creating at the same time a sizable fund to provide long-term credit at a subsidized interest rate to the domestic producers of capital goods. The result was seen in the rapid progress in import substitution in the producer goods sector.

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[26] It must be noted that though essentially export-oriented, the government's policy has not been all geared to neutral free trade. The instruments of protection not only largerly favored agriculture,but also those industries within manufacturing in which opportunities for substantial import substitution remained.

As already mentioned, the machinery and equipment industry achieved a rate of growth about 2.5 times that of the manufacturing sector as a whole during the 1970s. The production capacity now exceeds the current domestic demand in such machinery sectors as diesel engines, contruction machines and heavy equipment for power plants, which leaves open the possibilities of increased export activities. Toward the end 1970s, already about a third of total capital goods sector output was exported.

By the early 1980s, excessive investment in several industries within the capital goods sector (mainly, heavy machinery and construction equipment) produced a sharp decline in capacity utilization, although the recent problems in these industries evidently stemmed from the governments'overambitious promotion of heavy and chemical industries in the 1970s. Equally unexpected were such external events as the oil crisis in the late 1970s and the subsequent world recession that undoubtedtly reduced demand for capital goods. Such a setback for these industries notwithstanding, the substantial advance made in both import-substitution and export-expansion in this sector over the past decade must be seen both as having resulted in important foreign-exchange saving and as having provided vital impetus to sustained growth of the economy.[27]

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[27] Studies for developed countries generally show that substantial interindustry linkage effects can be expected from an expansion of capital goods industries.

(b)-An Overall Assessment.

Finally, as regards to the overall role of the government in promoting industrial development in Korea, some orthodox economists have contended that the Korean industry has succeeded in spite of the government's industrial policy and certainly not because of it. A more liberal view would ascribe Korea's success to the role of a strong government in guiding and coordinating the directions of development even within a basically market-oriented system. Although the impact of industrial policy cannot be accurately gauged, from the perpective of actual achievements in relation to the intented objectives, government-led industrial development appears to have worked well at least during the initial two decades of Korea's industrialization. Certainly, the recent Korean success would not have been possible within a framework of a complete laissez-faire system. It is hardly possible to think of the Korean miracle without government-initiated guidance that led to the active cooperation of industry.

8. PROBLEMS AND ADJUSTMENTS IN INDUSTRIAL POLICY.

In the immediate years following the second oil-crisis in the 1970s, economic growth in Korea after the rapid growth of the preceding two decades had considerably slowed down. The overall growth rate of GDP declined from an average of 10% during the period of 1970-78, to 6.2% in 1980-1982. Industrial and mining output showed a similar decline from the high annual growth rates of over 10% in the same period to 7.2% and 3.7% for the years 1981-1982.[28] The rate of inflation in Korea averaged 12.3% in the 1960s, rising to 17.7% in the 1970s. These rates were far greater than averages in other industrialized countries (9.2% for the US; 7.4% for Japan; and 9.8% for Taiwan during the 1970s), even considering the fact that the inflation in Korea was in a large measures related to the two global oil shocks during the decade.

The mounting external debt also threatens serious problems for Korea. In Korea, foreign capital has always played an important role in accelerating the pace of industrialization. Starting with a meager level of capital inflow totalling 31.8 million dollars in 1962, annual capital inflows have tripled about every five years. Although Korea's debt service ratio still remained at an acceptable 15% by 1982, the rising levels of

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[28] In 1979 real GNP declined by 6.2%, the largest negative figure since 1953. However, this was attributable to the large drop in agricultural output (-24%) caused by unfavorable weather conditions that year.

foregign debts have been making the domestic economy increasingly vulnerable to global monetarism, also causing it to be more dependent on export-oriented economic growth.

Although the main reasons for the recent slowdown can be attributed to the oil crisis in the late 1970's, the subsequent worldwide recession and the political crisis following the death of President Park in 1979, many recent problems facing the Korean economy - chronic inflation, accumulative deficits in trade balance, the increasing burden of foreign debts, inadequate corporate financial structure, insufficient vertical relationship between industries, the relative weakness of small and medium businesses - can be recognized as related to long-term problems slowly accumulated in the evolution of industrial policy of the last twenty years.

The development strategy pursued by the government in the last two decades was an "externally-oriented industrialization strategy" based on a system of "administrative guidance". In the course of implementing this strategy, the government officials' obsession with achieving immediate quantitative results was quite successful, although from a qualitative point of view, the results were, in many areas, below those that should have been.

First, in order to quickly meet the growth targets, attempts were made to capitalize on scale-economies in industrial production. This naturally meant concentration of industrial policy support on big businesses. As a result, in Korea big business has grown excessively large, and has encroached the traditional domain of medium and small businesses reducing the importance of the latter.

Next, the government, in an attempt to enforce attainment of the target-goals, generally rewarded the more successful exporters by basing its support on quantitative exports results. Not only this led to an economy-wide in efficient use of resources but also created a serious structural imbalance in which development of domestic goods industries was biased against. In addition, such a support system tended to favor the production of these assembly-type exports, typically with heavy reliance on foreign raw materials, which normally leads to the need for more imports through exports. The result would be chronic pressures on the international trade balance, with the economy becoming increasingly dependent on foreign capital.

Finally, reliance on forced savings to raise investment funds, excessive investment in heavy and chemical industries, and real-estate speculation throughout the 1970s brought about an inflation that plagued the economy since the mid-1970s.

Many of these problems were recognized both by the government and private business sector which incessantly attempted to find new solutions by modifying the structure of previous industrial policy. The more recent and current policy plans began to focus on the measures for correcting many distortions and imbalances that resulted from the earlier policies for overambitions growth. In fact, when one looks back at the evolution of Korean industrial policy, the flexibility and adaptability to changed circumstances have been a major strength in the long-term planning. For example, the case in point refers to the policy plans in the shift of emphasis from sector to sector that have continuosly evolved over time.

In the early plan-periods, priorities were placed on infrastructure building, which was closely related to construction industry. Subsequently, there was more stress on labor-intensive light industries. Then came heavy and chemical industries, moving currently into electronics industry. Now, as the economy is diversified and sophisticated in technologies and competitive in international markets, there have been currently proposals to reverse earlier tactics of "prioritizing" sector for promotion to a more economy-wide liberalization measures that can benefit a large number of sectors, more or less, indiscriminately. The word, "liberalization" must, however, be understood restrictively as largely confined to imports, which is likely to be based on the year-to-year situation in the balance of payments, and on some principle of reciprocity vis-a-vis other trading partners.

The earlier excessive investment in skilled-labor intensive heavy and chemical industries, in which the government thought Korea would have a comparative advantage, only produced a sharp decline in capacity utilization in the face of the recent world-wide recession. The development of heavy industry was promoted at the expense of investment in export-competitive light industry. The lesson learnt by the policy-makers is that in the initial two decades since the start of the effort for industrialization, government-led industrial development worked very well. However, as the economy grew larger and more diversified, public-sector intervention in the economy became increasingly less efficient. There prevailed the feeling within the government circle for the need of increased decentralization in economic policy, leaving a greater autonomy to the private sector.

Recent policy reforms.

Indeed, with the Chun government coming into power in 1980, basic policy reforms have since been undertaken to achieve price stability and an improved distribution of income along with the objective of continued high growth. As "economic liberalization" becomes the hallmark of these reforms, on the structural side of the economy, the policy makers insisted on such measures as the elimination of preferential treatment of "strategic industry", the gradual dismantling of import barriers as well as liberalization of foreign investment, the eventual denationalization of the commercial banks, the promotion of small and medium enterprises, and the development of indigeneous technologies. To restore economic stability, policy measures should include tight monetary policy, reduced government intervention in the allocation of credit, the government's policy to finance budget deficits with a minimal impact on the money supply and increased capital utilization.

The balanced development of small and medium industries is important for the restructuring of the Korean economy. The establishments falling into this category not only employed more than a half of the total labor force, but the government's promotion to encourage exports based on intra-industry specialization rather than on inter-industry specialization should imply greater opportunities for small and medium firms to share the benefits of trade. The trade "liberalization" measures include the gradual increase in the import liberalization ratio, for example, from 76% in 1982 to 92% by 1986 (calculated from Table 9), and the gradual replacement of non-tariff protection by tariffs which will be granted only for a limited time period. These measures are incoporated in the Fifth Five-Year Development Plan (1982-1986), which to contain some elements of the "indicative" nature of planning, since it relies on greater inputs from the private sector than had been the case in the past.

The reforms in industrial policy that emphasized stability over growth have proven quite successful in bringing about economic stability -in particular, price stability - that would be vital for sustained economic growth since Korea's limited resources must be allocated more efficiently than ever before. Stabilization measured quickly led to the restoration of price stability with the whole sale price increasing only 2.4 percent in 1982[29] in contrast to close to 40 percent inflation in 1980.

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[29] The fall in commodity prices abroad including oil prices also contributed to the drastic reduction in the rate of

TABLE 9

IMPORT LEBERALIZATION SCHEDULE BY INDUSTRY (NUMBER OF ITEMS)

Product Category	Total items	Item still restricted in 1983	Items to be liberalized				
			1984	1985	1986	1987	1988
Food and drinks	1,386	368	30	30	32	-	-
Chemical goods	2,182	119	10	14	46	35	-
Steel and Metal Products	802	74	16	17	31	6	-
Machinery	1,414	435	123	75	86	54	95
Electrical Machinery, Appliances& Electronics	495	241	53	59	64	48	17
Textiles(including leather garments)	1,089	219	114	33	30	19	-
Others	547	104	6	9	17	12	-
TOTAL	7,915	1,560	352	237	306	174	112

SOURCE: The Korean Economy - Opportunity and Prospects

It remains debatable if the new concept of "economic liberalization" can ever take root in Korea that has been accustomed to the directions of a strong government, and to the working relations between the government and giant industrial conglomerates. The current trade liberalization measures have been applied on imports, based, more or less, on the principle of recipsocity.[30] Preferential access to credit under favorable

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inflation.

[30] Its purpose was really to help avert the impact from trade barries abroad and in any case tariffs will not drop below 20%.

terms still is provided to exporters; the Bank of Korea offers a favorable exchange rate to the exporters especially in competition with the exporters of Taiwan and Singapore; and foreign financial institutions are still confined to a modest share in the local financial stock.

Viewed in this context, the recent policy reforms can best be seen as the pragmatic measures aimed at adjusting to the changed international market conditions as well as at correcting structural imbalances developed over time through a somewhat excessive intervention by the government in the economy [illegible]e past. Thus, this flexibility and pragmatism that lack a strong ideological bias in designing industrial policy is the hallmark of the success in Korea's industrial development.

9. EVALUATION.

This study has reviewed the philosophies, goals, sources, forms, and institutions of industrial policies in Korea in relation to the resulting evolution of the economy and its industrial structure. The analysis points to the indispensable role that the industrial policy for priority sector-development has played as the corner stone of Korean industrialization.

A larger issue that remains to be answered is: Why has Korea succeeded while other developing countries pursuing similar policy measures have been less successful? It thus is important to examine the interacting roles of other factors that have directly and indirectly contributed to the positive results of policy measures enforced by the government.

Korea's Success can be ascribed to several factors other than policy measures whose relative importance cannot easily be measured. Some of them clearly represent the situations perhaps unique to Korea and their replicability in other developing country context would be beyond question.

1. The Sino-cultural heritage.

The dynamics of development of a country cannot fruitfully be explained only by factors of production and economic policies. First of all, the socio-cultural environment must be conducive to rapid economic growth. The society of Korea is culturally and ethnically homogeneous, and less structured than in most other parts of the developing world. There were no strong social discriminations because of differences in religion, or no deeply-rooted class structure. Consequently, the social mobility of labor is relatively unrestricted by soical and class constraints. Also, in common with other high-growth East Asian countries, Korea shares the influence of Sino-cultural Confucian heritage. The Confucian value system essentially governs non-religious, ethical codes of social behavior. Its certain virtues are supportive of economic growth and development. Among them are: high value placed on education as a vehicle for self-improvement; extollment of diligence and self-discipline, respect for social order, hierarchy and authorities; and absence of religious or ideological dogmatism inhibiting the pragmatic pursuit of ends.

It is difficult, however, to explain all in a positive way the Confucian influence on economic development. There are other virtues in the heritage that would be largely inimical to economic development. For instance, the role of businessmen and merchants is despised in the Confucian value system compared to the social prestiges associated with government officials, soldiers and scholars. The traditional attitude does not well explain the surge of the high level of entreprenerial supply in Korea. It remains a puzzling question why certain negative influences in the Confucian heritage withered away and only the positive influences have prospered.

2. Well-educated labor force.

Korea inherited from its Confucian culture a tradition in which education is socially valued. Already in the early 1960s it had developed an educational system far advanced than that existing today in other developing countries. Although public expenditures on education in Korea have been low by international standards, Korea has one of the highest literacy rates in the world with a very high proportion of high school and university graduates in the labor force.[31] Large investments in human capital have yielded a highly skilled labor force, at the same time providing social prerequisites useful for entrepreneurial success. High growth rates of labor productivity observed throughout the period of Korea's rapid growth can largely be explained by the well-educated, and well-disciplined nature of its labor force.

3. Political will and stability.

Political factors undoubtedly contributed to an effective and efficient implementation of new strategies for development formulated in the early 19060s. Since the military coup in 1961, Korea has had strong and stable governments motivated and capable to impose far-reaching economic policies. With the help of competent technocrats, the government has been able to formulate

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[31] There was an educational revolution primarily based on individual initiatives during the 1950s which paved the way for the industrial revolution, boosting the 30 percent literacy rate in 1953 to 80 percent ten years later.

and efficiently execute policy plans articulated for concrete action. When deemed necessary, the government has even intervened in labor markets, countering organized labor, which as a result has so far failed to emerge as a powerful interest group. Wages were, however, allowed to rise, more or less, in response to labor market conditions. For instance, in mining and manufacturing average real wages have risen in response to labor market conditions by 5.5 percent per annum in the fifteen years since 1960.Only during the early 1960s, real wages had been relatively severely suppressed in order to gain Korea's competitive edge in exports of labor-intensive goopds.

4. Favorable international environment.

It is important to note that Korea's earlier export success was achieved under rather unusual international cirecumstances. The two decades following the Bretton Woods system until the oil crisis in the early 1970s can be viewed as the "golden age" of international trade and investment. During this period, not only supplies of international capital at reasonable borrowing terms were relatively abundantly available, but many industrialized countries could attain and sustain a near full-employment growth, which stimulated continued expansion of the world market. The world trade volume in manufacturing goods in fact grew by more than ten percent per annum during this period. The fruits of this expansion were also shared by the Newly Industrializing countries in East Asia, including Korea.

The rapid growth of industrialized countries began to slow down in the period immediate... following the first oil crisis in the early 1970s. Not only the volume of world trade stagnated, but also the neo-protectionism in industrialized countries has appeared to discrimina... against exports from developing countries. The prospects of international trade for developing countries in the foreseeable future are not that promising. The recent recovery of industrialized countries is not likely to be sufficient to return developing countries to economic growth rates comparable to the past. Changed world-economy environment today is likely to make developing country efforts to replicate the Korean-style export- oriented development much more difficult.

5. Other factors,

Among other special factors that contributed to Korea's success would be the high level of foreign aid Korea received throughout the 1950s and the early 1960s, which enabled the government to rapidly develop the infrastructure required for susequent growth in industry. Over the 1960-75 period, already about 40 percent of total investment in Korea had been financed from abroad. Until the mid-1960s a large portion of foreign capital was in the form of grants. The concessionary aid was gradually replaced by loan compoents of capital, made accessible to Korea at reasonable rates largely in response to its superb export performance.

It is also worth noting an historical event in the world that had influenced the pace of Korea's industrialization. South Korea militarily participated in the Vietnam conflict during the late 1960s and the early 1970s, at the same time providing war-related offshore supplies to the U.S. troops. The beneficial impact of these provisions can be seen in increased foreign exchange earnings as well as in the increased importance of such sectors as steel, machinery and other manufacturing activities.

Lastly, related to the issue of human capital, good management at the firm level as well as high quality of the labor force have been a fundamental strength of the Korean industrialization process. The Korean manufacturing sector has been characterized by efficient factor use and high rates of capacity use. For instance, despite the increased importance of steel, petrochemicals, shipbuilding and machinery in the first half of the 1970s, the capital-output ratio for the manufacturing sector continued to remain very low by international standards.[32] Labor productivity grew at an average rate of about 7 percent per year during the 1966-76 period. These gains were accompanied by small increases in the average capital employed per worker, reflecting large improvements in productivity in the existing industries.

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[32] For instance, the gross incremental capital-output ratio was estimated at around 2.4. (Wesphal & Kim, 1977, p5-11.)

These factors, more or less unique to the Korean situation, are not sufficient in themselves to explain Korea's success. A combination of Korea's historical and cultural circumstances had already existed, and only helped government policies to work. In the final analysis, it was largely a set of industrialization strategies carefully designed and effectively implemented that initially set into motion the whole process of development. The bases of such policies have been central direction of flows of finance, control over allocation of investment, influence on flows of trade, and hence on the evolution of the structure of industry. The industrial policy was instrumental in achieving the national goals for growth and development mainly through an administrative guidance for industrial development and a directive allocation of resources.

Perhaps, most significant was the earlier recognition by the government of the need for a change in policy for export-orientation. The efficiency of factor use can only be related to the timely orientation of Korea's development strategy. The point is worth stressing, for given the then circumstances, it is difficult to imagine that Korea's rapid growth would have been possible, had Korea continued to follow the policy of import-substitution without an articulate strategy for industrialization. Thus, the Korean case appears to largely contradict the conventional myth it is associated with -a success story of a free market-oriented development strategy.

The evidence indeed shows that the government, through complete control of the financial system, has directly and indirectly mobilized credit and investment towards what it considered as the "priority-sectors". The coherent set of policies aimed at integrating producing sectors, in particular, by means of the strengthened production of intermediate and capital goods, led to the establishment of a viable industrial structure that proved adaptable to the shifting comparative advantages in international markets. The vertical integration in production structure also led to lessened import dependence of the economy.

Account must also be taken of the flexibility in policy adaptation as well as the longer-term perspectives taken in Korea's industrial planning. The sectoral planning, designed in a manner consistent with more encompassing macroeconomic policies, not only emphasized the production linkage existing between sectors but also took into consideration the dynamic sequencing of sectoral development that could be adapted to the shifting pattern of comparative advantage. Indeed, the earlier factor-market distortions that encouraged a capital-intensive production proces had stemmed from the government policy to promote the targeted industries with subsidized loans that eventually led to the creation of a new pattern of comparative advantage in industrial structure. The important point to note is that it was not the factor endowment conditions that influenced the evolution of Korea's industrial development.

Rather it was a set of articulate, conscientious policy measures that contributed to a dynamic sequencing in industrial development for comparative advantage. It must also be noted, however, that too strong a government role in recent years has entailed imbalances and structural distortions in the economy that needed to be corrected in future planning.

General conclusions concerning the precise role of the industrial policy in the Korean development are difficult to draw. Evidently, Korea's early economic successes were attributable to a number of special factors already referred to. But there is also little doubt that the setting of specific objectives and targets, well designed policy measures, and more fundamentally, the coming to terms with the problems encountered in implementing such targets, have been the important reasons in the success story of Korea.

APPENDIX: THE RELEVANCE OF THE KOREAN EXPERIENCE TO MEXICO.

This section discusses whether and in what respects the Korean experience can be transferred in developing countries such as Mexico, which like Korea is in the intermediate stage of industrialization, albeit, in a much different politico-cultural environment. Although there is recognition that Korea's success owes to a large extent to several special factors already mentioned, there is less appreciation of the importance of sensible policy measures. Thus, the lessons on industrial policy that can be learned from the Korean experience can prove useful to other developing countries less far along the path of industrialization.

Like Korea, Mexico already has a relatively well-developed industrial structure in comparison with other developing countries. During the decades of the 1960s and 1970s until the recent economic crisis in the late 1970s, Mexico had sustained fairly rapid rates of economic growth. Despite the newly discovered oil resources, Mexico's major economic problem has continued to remain that of coping with rapid increases in domestic demand owing to the explosive population growth. The past reliance on import-substitution industrialization has also led to the weakening of its industrial structure for foreign trade. The inadequate integration of the production sectors, particularly the weakness of intermediate and capital goods, has led to a rapid growth of imports of these goods. The traditional exports (food products and textile) have suffered from the slackening world demand and challenge of lower wage countries. Thus there is an urgent need for the restructuring of industry for the increased production of such sectors as mechanical and petrochemical industries. The Mexican economy has heavily depended on trade and capital inflows from the United States, and certainly policies for the redeployment of trade recently introduced in order to acquire a certain degree of autonomy will not be effective without a coherent industrial policy.

In terms of the structure of the economy, both Mexico and Korea belong to the group of semi-industrialized countries with the industrial sector accounting for an important share of national income. In 1960 Mexico's share of manufacturing value added in developing countries stood at 11 perecnt, as compard with 5 percent for South Korea. The change in the share of manufacturing value added in GDP was much faster in Korea, however. The Korean manufacturing share rose to 32 percent by 1975, while the same share for Mexico increased by only 4 percent to 23 percent in the same year.[33]

Unlike Korea in the beginning stage of industrialization, Mexico's domestic market, however, is still sizable and Mexico is endowed with adequate natural resources. For instance,

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[33] United Nations Statistical Office.

manufactured goods have been very important in Korean exports, accounting for close to 85 percent of the total during the mid-1970s. For Mexico, the manufacturing share in exports was slightly greater than a half.

There are in general more disimilarities than similarities between the two countries in aspects other than the econcmy. Disimilarities seem enormous when comparisons are made in the context of the cultural, historical, and geopolitical circumstances. For instance, while the Koreans are ethnically and culturally homogenous, andhave been influenced by a common Sino-cultural heritage, Mexico is a geographically and socially diverse nation with regional differentials in culture and traditionas well as in natural and human resources. Politically, Korea has had strong governments motivated and capable to design and implement plans and policies. In contrast, political decisions in Mexico have often lost central directions and policy coherency, reflecting the need to accomodate conflicting interests of diverse political groups. Nor has the planning in Mexico been really effective in providing any controlling role for government action. An example of this is the six-year cycle of public administrations, which effectively has limited the possibility of any long-range planning for industrial restructuring.

Despite the disimilarities, the implications that can be drawn from the Korean experience, however, seem enormous from the perspective of policy issues. While it is true that a replication of policies would not ensure a success, they would still be useful for improving the situation or avoiding unnecessary mistakes. In this regard, we can note the following lessons from Korea's success as particularly relevant to the Mexican context.

1. One of the most crucial factors contributing to Korea's success has undoubtedly been good planning and management of economic policies. The basic strategy of Korean industrial policy has been conscious industrial restructuring to create comparative advantage in high value-added industries with a growing market and potential scale-economies. Korea also provides an excellent example of government-led industrialization with strategies articulated for dealing with the complex interdependence between the tradable sectors and other principal sectors of the economy. The need to induce economic changes in the major sectors in a manner consistent with the overall macro-economic policies has been fullly appreciated by policy-makers. Government support has been consistent between goals and instruments from the beginning of its support until its withdrawal. There were constant evaluations of industrial performance and industrial dynamics, which were built into the process of government mobilization of support and assistance.

In contrast, the Mexican experience in recent years demonstrates the importance of policy coherency that can be achieved by a more effective integration of interests of diverse political groups and by a more efficient coordination of administrative mechanisms.[34] The earlier administrative reform under the Portillo administration did not go far enough to improve the efficiency of the federal government or to reduce many forms of public-sector irregularities. Policy planning has often been emphasized without articulating concrete government action. Clearly, a more effective implementation of the reform concepts as well as a more disciplined approach to reduce inefficiencies and wastes are needed.

2. The Korean model also illustrates the success of an industrialization strategy that uses the market mechanism as an instrument of policy. The government decisions to liberalize exchange rates and interest rates along with fiscal reforms were aimed at establishing the conditions conducive to international competitiveness and to encouragement of savings. Even such tactics as selective credit allocation to support expanding sectors induced competition by creating markets for products, and the conditions for high returns, thereby attracting the entry of many competitors.

In Mexico, industrial activities have often been chosen on an ad hoc basis, mainly in relation to the objectives of increased employment and the generation of foreign exchange. In selecting the policy instruments, often little considerations have been given to the efficiency of investment, nor to the

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[34] For example, the 1976 measures to liberalize imports to reduce inflation ary pressures ran counter to the long-standing policy for industrial development. In particular, reductions in tariffs on capital goods imports retarded the development of domestic capital goods industry.

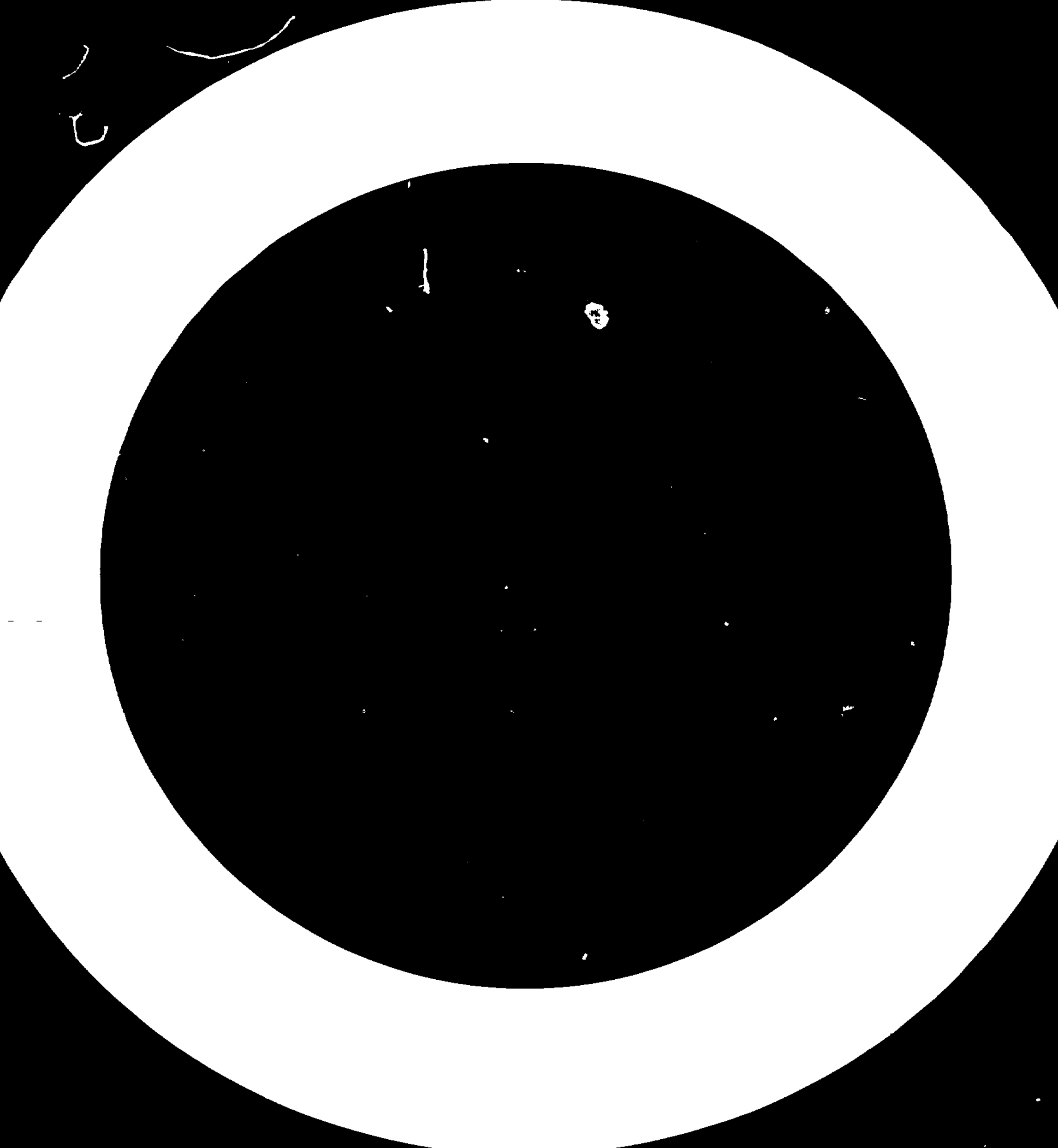
potential impacts on structural distortions in the economy. Given the difficulties of using the shadow prices or the benefit-cost analysis to investment allocation, sectoral priorities must be set at least in a framework consistent with the overall industrialization objectives. That is, the mix of the overall and sector-targeted policies must be programmed in clear terms in ways that the desirable contribution of each industry fits into the overall objectives. The role of public-sector industries must also be clearly defined within the framework of industrial policy. In this regard, the Korean planning is illuminating.

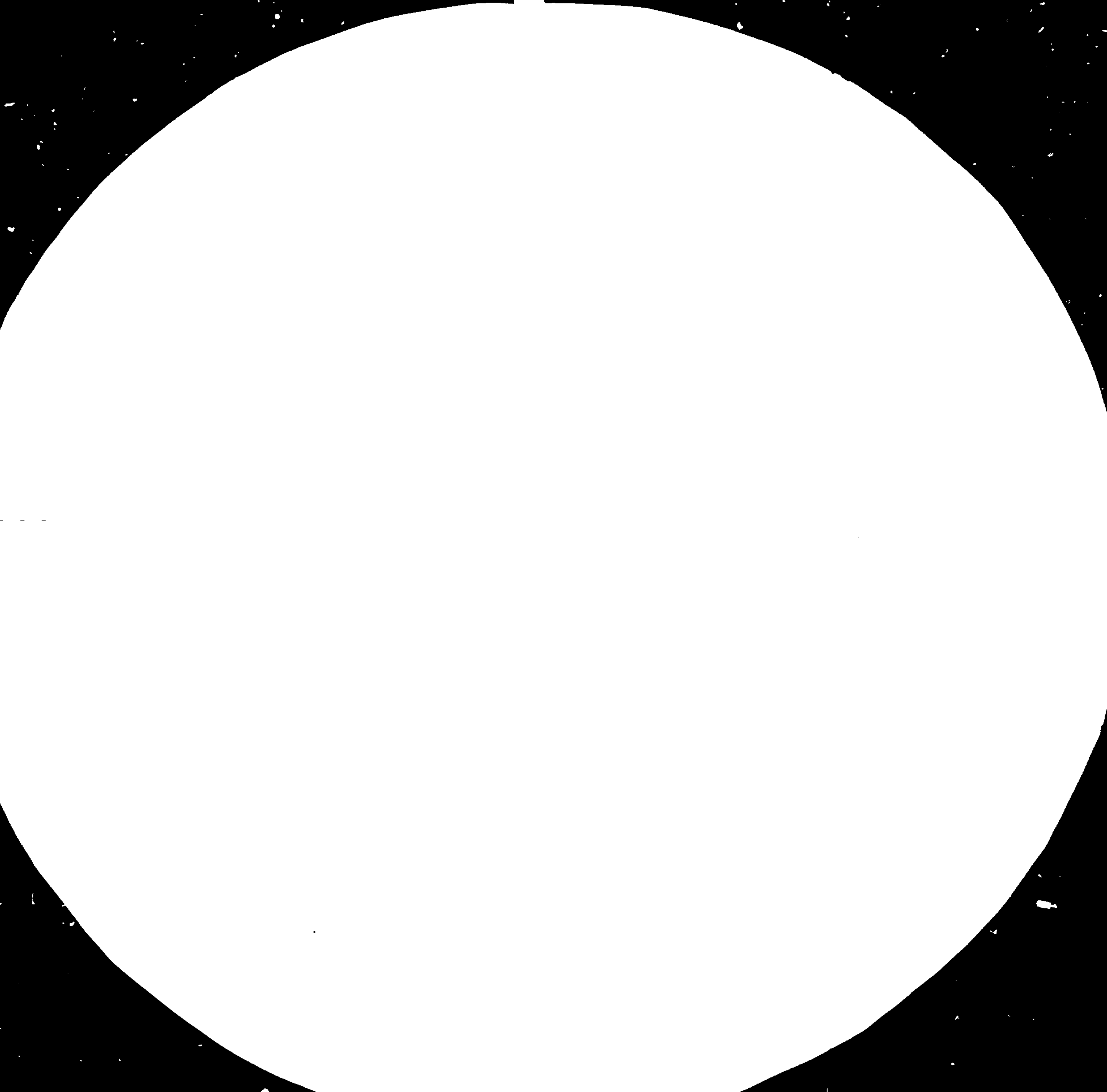
3. Korea's strategy to shift to capital-goods industry development in the mid-1970s reflects both a timely and far-sighted planning. It was a strategy aimed at moving into both export expansion and the deepening of domestic industrial structure through import substitution.

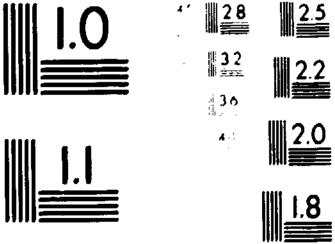
The Mexican capital goods sector has been in a weak link with other sectors, which has forced Mexican industry to rely on imports of capital goods. Initiation of positive government support is needed, perhaps following the similar type of incentive schemes used by the Korean government. Within the last several years, the Korean government has eliminated tariff exemptions accorded to exporters on their capital goods imports, and has established a fund to provide subsidized loans to the capital goods sector. In contrast, Mexican policies have generally discriminated against purchase of domestically produced capital goods through tariff reductions and an easy access to credits tied to the purchase of imported capital goods. The adverse effects of this kind of policy on domestic capital goods industry must be taken into consideration by policymakers.

4. Korea's success vividly demonstrates the importance of human resource development for economic development. On the other hand, Mexico still ranks high among developing countries in terms of the illiteracy rate and the shortage of educated and trained manpower. Thus, there is still a large backlog of investment in human resources to be made in Mexico. In particular, since it is difficult to expect that a much greater proportion of the cost of education is suddenly born by students and their families in Mexico, a greater share of GDP needs to be devoted to public educational expenditures than is now the case. Mass education and improvements in the quality of education not only contributes to acceleration of economic growth in the long run, but also brings about broader social participation in the benefits of growth.

5. The Korean experience shows that export activity provides an effective means of acquiring industrial competence, thereby serving as a direct vehicle for improving productivity. For Mexico, however, given the changed international environment today and the sizable domestic market it has, the strategy for an all-out export-led industrialization, as was the case with Korea in the 1960s, would clearly be unwise. Nonetheless, export revenues have proved indispensable to the process of economic growth, and there is a clear need to encourage, albeit on a selected industry







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basis, Mexican exports, and to avoid many of the pitfalls customarily associated wtih excessive controls of trade.

At the same time, the efficacy of import-substitution policies must be judged on the basis of international competitiveness of domestic industrial products in terms of price and quality. Once competitiveness is attained, import-competing activity must be encouraged to simultaneously move into export activity.

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