



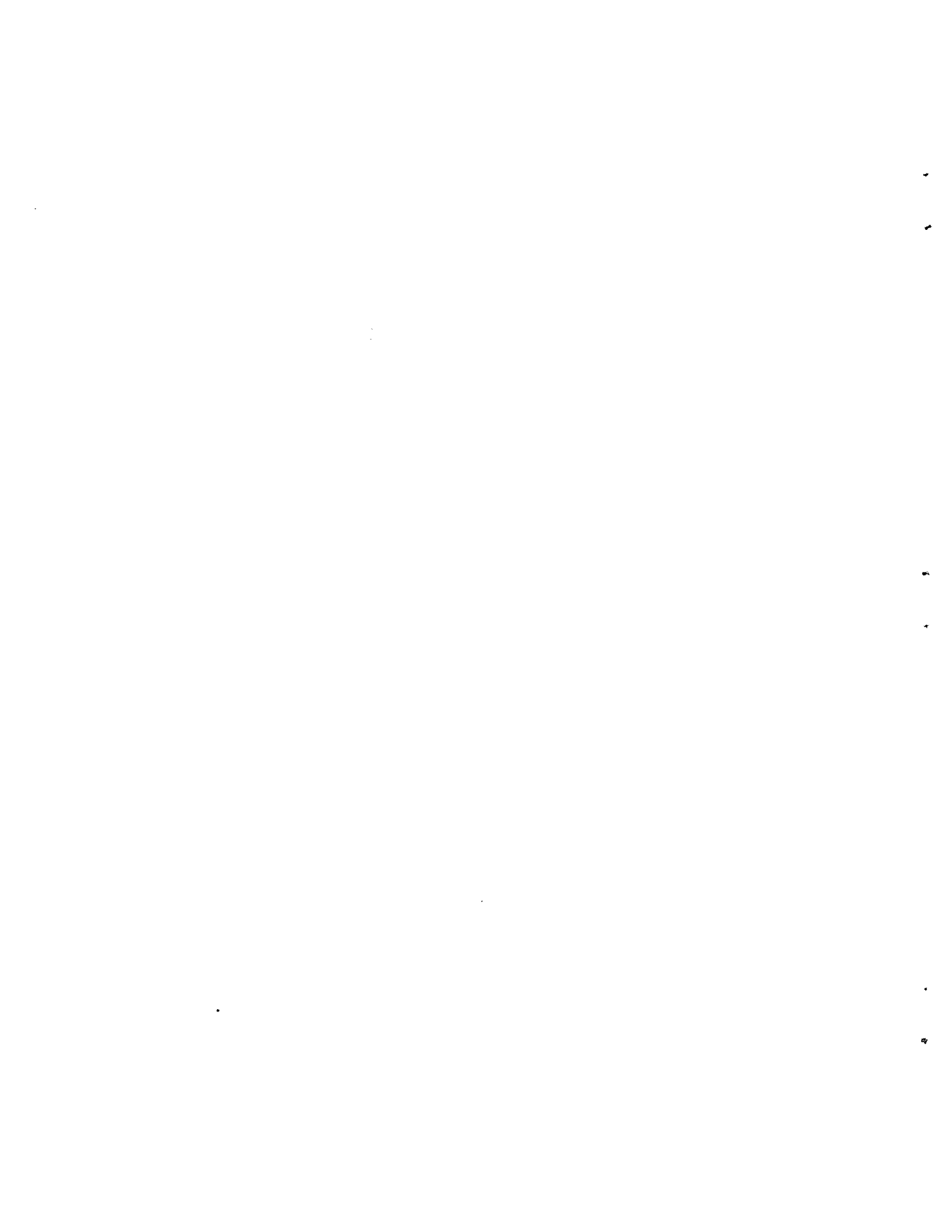
**INDUSTRIAL POLICY AND INDUSTRIALIZATION IN
SOUTH KOREA: 1961-1982. -- Lessons on
Industrial Policies for Other Developing Countries**

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Abstract

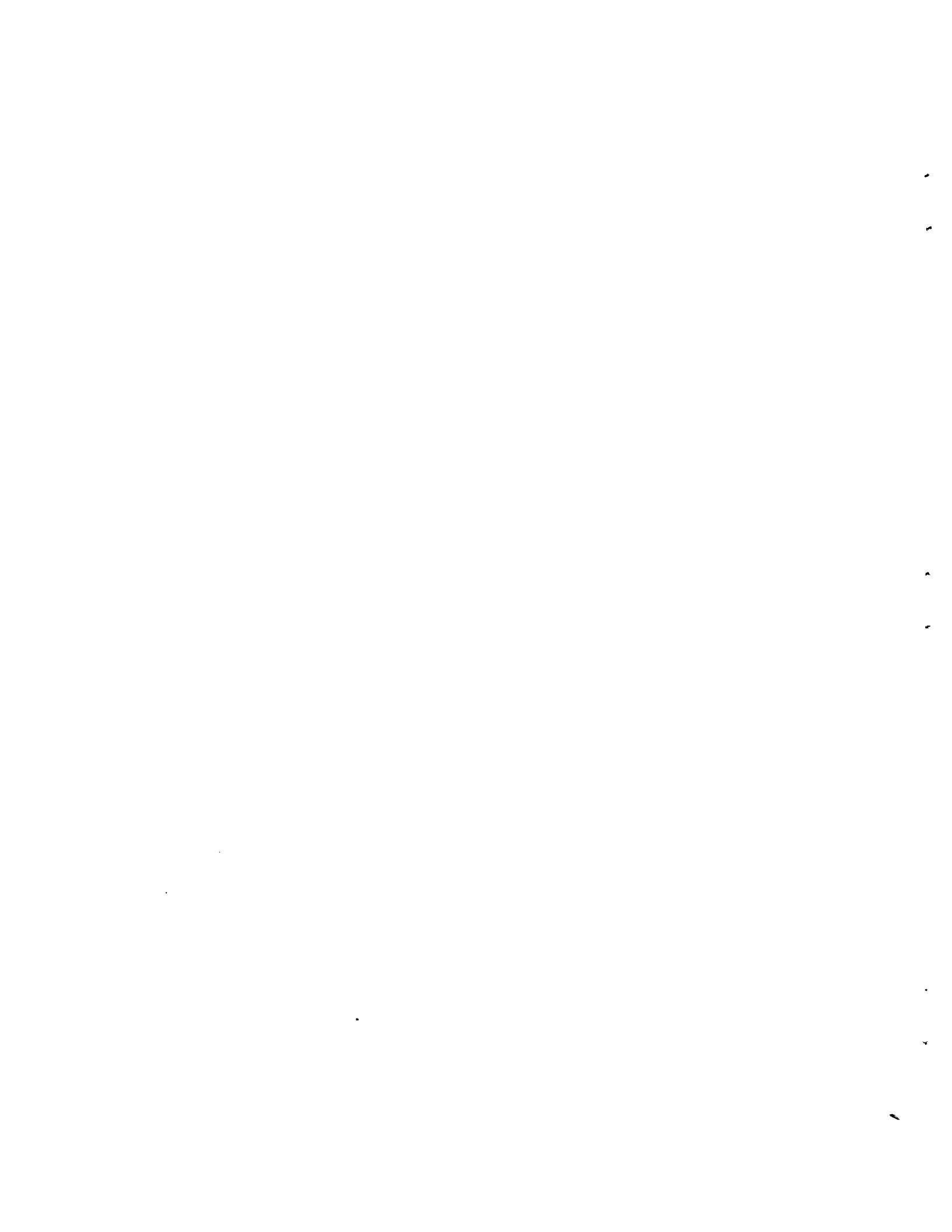
This study reviews in depth Korea's industrial development policies and their impacts on the pattern of industrialization during the first two decades since the beginning of the First Five-Year Development Plan in 1962. It examines how industrial policies have evolved, specifically focusing on how Korea's industrial policy frameworks have changed in response to changes in economic conditions in the world as well as in the domestic economy. In the analysis, the concept of industrial policy is delineated in terms of its objectives and choice of policy instruments as well as the mechanisms for policy formulation and implementation.

It is found that Korea's industrial development has overwhelmingly been guided by industrial policy which was well-articulated in design and efficiently executed. In particular, evidence indicates that the overall macroeconomic policies affecting the pattern of industrial development have been effectively and consistently orchestrated with sector-targeted development policies. The study then concludes with a summary of the main findings and an evaluation of the various factors contributing to Korea's success.

Resumen

Este estudio analiza en profundidad la política de desarrollo industrial en Korea y sus impactos sobre los modelos de industrialización durante las dos primeras décadas a partir del Plan Quinquenal de Desarrollo comenzado en 1962. Examina la evolución de la política industrial, especialmente lo relacionado con su cambio en respuesta a los cambios de las condiciones de las economías mundial y nacional. En este trabajo el concepto de política industrial está delineado en términos de sus objetivos y escogencia de mecanismos políticos de formulación e implementación.

Se deduce que el desarrollo industrial de Korea ha sido totalmente guiado por la política industrial la cual fué bien articulada en su elaboración y eficientemente ejecutada. En particular la evidencia indica que toda la política macroeconómica que afecta el modelo de desarrollo industrial, ha sido efectiva y consistentemente estructurada con políticas de desarrollo sectorial. El estudio concluye con un resumen de los principales resultados y una evaluación de los diferentes factores que contribuyeron al éxito de Korea.



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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 to emulate 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 standards.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, and 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. Korea's success has been attributed to many factors - social, cultural, political and economic. Undoubtedly, all these factors, together with their interaction, must have affected Korea's path of development, and an attempt to single out any particular factors as more decisively important would be futile on account of the inherent complexity of the development process itself. One important aspect of Korea's success, however, that has in the previous studies received much less attention than it should, is 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

¹ See Adelman (1974) for the evidence regarding Korea's income distribution.

² John C. Caldwell in 1955.

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 at least some understanding of development plan and strategies.

This recognition of the priority need for economic development was not solely the result of determination at the top. It was conceded by all segments of society that there were indeed advantages in working together for the good of 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. Moreover, Koreans found that plans could also serve as a means of evaluating performance. This concept applied to all levels including workers, industrialists and farmers as well as the bureaucracy .

The plan of this paper is as follows: Chapter 2 reviews the growth performance and changes in industrial structure in the Korean economy with special reference to capital-goods industry development for the last two decades. The following two chapters 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 degree of consistency among the various instruments. Chapter 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 adjustment in Korea's industrial development policy, are discussed in the last two chapters along with a summary of the main findings and an evaluation of the various factors contributing to Korea's success.

2. GROWTH AND STRUCTURAL IMPROVEMENT.

A. The Overall Performance.

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 remarkable economic and social progress. Over the period, real GNP expanded at an average rate of 8.6 percent per year from 12.5 billion to 60.0 billion dollars; and per capita GNP increased from 471 to 1,549 dollars, both in 1980 prices.³ Meanwhile, its commodity trade volume increased substantially from 450 million dollars to approximately 45 billion dollars at current prices, registering an annual real growth rate, on average, of 10 percent. In 1982 Korea has already emerged as one of the major exporting countries, accounting for more than 1 % of the total world exports.

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 percent to 30.0 percent 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 percent to 69.1 percent of total investment. As a result of this growth, the portion of the population considered poor fell from 40.9 percent in 1965 to 9.8 percent in 1980 (table 1 and 2).

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

TABLE 1
MAJOR ECONOMIC INDICATORS, 1962-1981

	<u>1962</u>	<u>1981</u>
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 (percent of GNP)	15.50	30.00
Domestic Savings (percent of investment)	25.50	69.10
Poverty Group (percent of population)	40.90	9.80
	(1965)	(1980)

Source: Economic Planning Board

TABLE 2

THE KOREAN ECONOMY:

PERFORMANCE BY FIGURES

PRINCIPAL ECONOMIC INDICATORS

YEAR ITEMS	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	43,267.83
	1975 Constant Market Prices	million dollars	2,362	1,428	2,009	2,023	2,098	2,115	2,072
		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	Total Index	1975 = 100	10.5	13.7	37.4	100.0	209.8	231.7	240.6
Numbers of Industrial Products	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	11,330	13,706	14,018	14,424
Unemploy- ment	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	481.00	659.90	700.50	748.00

Note: (P) = Preliminary

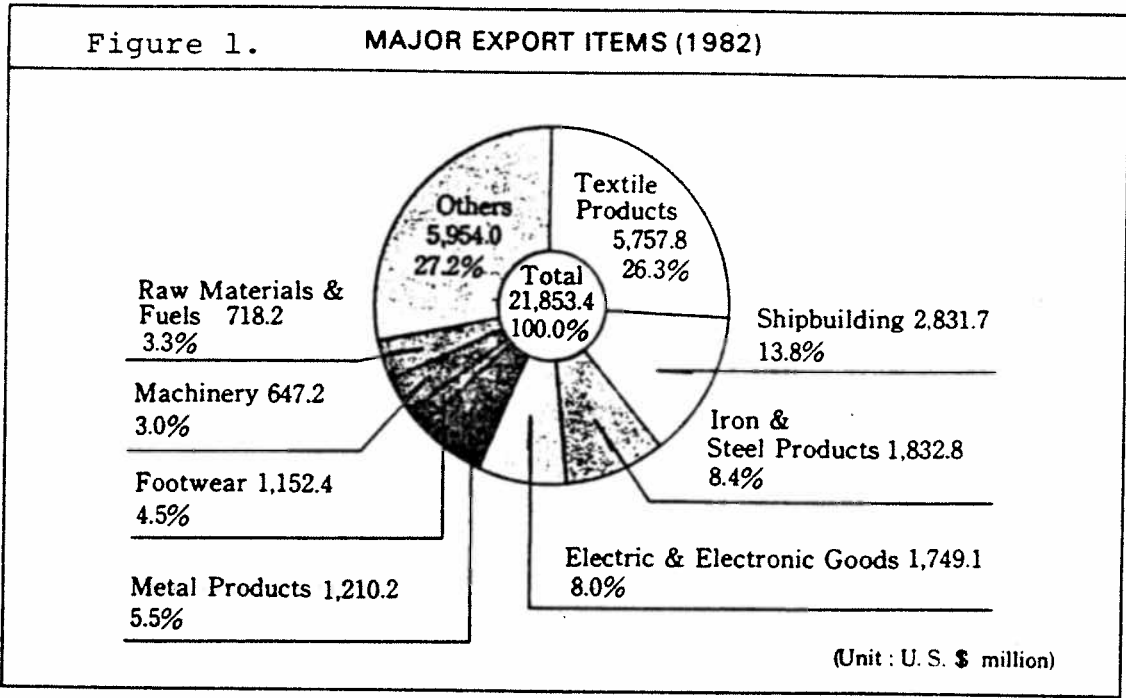
(Source: The Bank of Korea)

The rapid structural transformation is also reflected in the structure of foreign trade. In 1962, the primary products of agriculture, fishery and mining accounted for almost three quarters of the total exports, while industrial products accounting for only a quarter. With the rapid pace of industrialization, industrial products began to account for an ever increasing portion of total exports, and by 1982, reached as much as 93.7 percent of total exports.

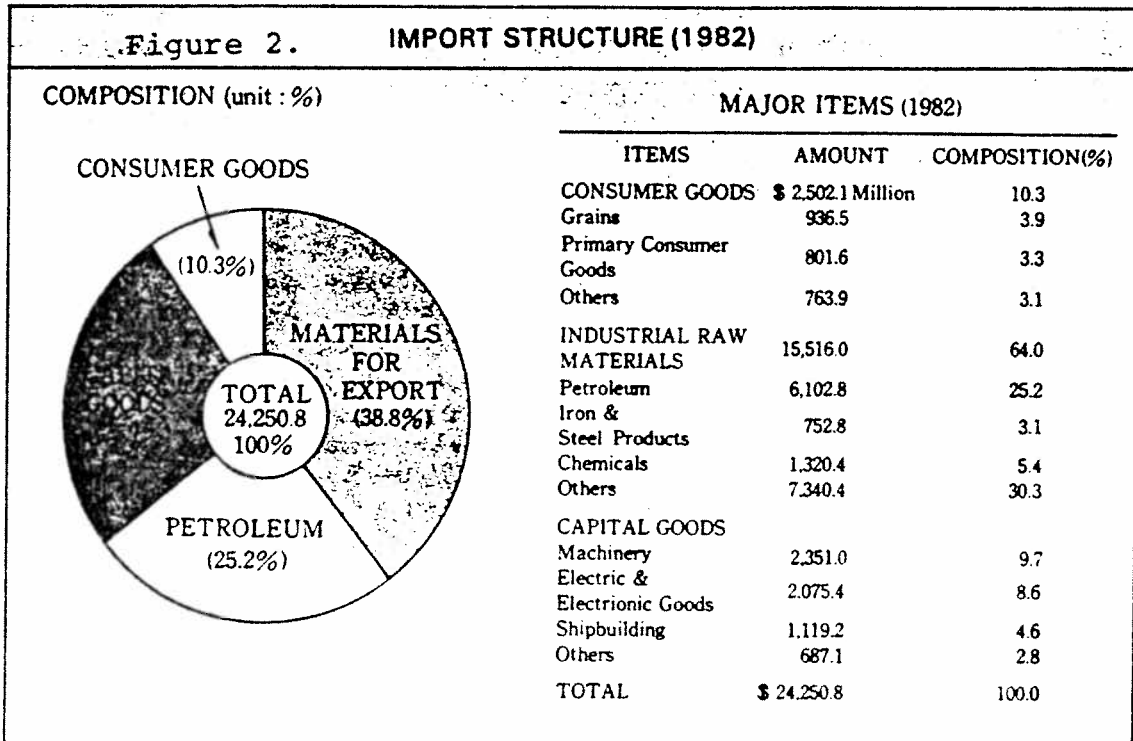
From the mid-1960s to the mid-1970s exports of light manufactured goods represented an overwhelming majority, approximatedly two-thirds of the total exports. Heavy machinery and chemical products began to comprise an increasingly larger share in composition of exports. They reached close to a half of the total exports in 1982, with the proportion of light industrial products declining to 43 % (Figure 1).

Korea's export market showed a pattern of considerable diversification. The number of countries trading with Korea which was only 33 in 1962, increased to 100 in 1970, and rose to more than 170 in the 1980s. The trade with the United States and Japan accounted for more than 60 % of the total trade until the middle of the 1970s, but beginning in the 1980s, this figure declined to a level approximating 40 %.

Imports, on the other hand, reflects the inadequacy of capital base and the lack of natural resources in the Korean economy. Imports of raw materials and capital goods represented an overwhelming proportion of total imports, accounting for as much as 80 % - 90 % throughout the 1960s and 1970s (See Figure 2). The share of energy imports also showed steady increases from less than 10 % in the early 1960s to almost 30 % in the early 1980s. Such a large energy importation, exacerbated by the two global oil crises in the 1970s, is a constraint to improving Korea's international balance of trade.



Source: The Korea Chamber of Commerce & Industry.



Source: The Korea Chamber of Commerce & Industry

B. The Industrial Profile.

Rapid economic growth has brought with it structural transformation in Korean industry. Thanks to the export boom throughout the 1960s, Korea's industrialization started with large growth in labor-intensive industries, such as plywood, textile and garment. Beginning in the mid-1970s these light industries, exports of which were heavily dependent on cheap labor, began to lose their competitiveness in international markets. Soon, such heavy industries as machinery, metal, steel, petrochemical, automobile and shipbuilding began to show remarkable growth. This was the result of the government's policy of developing the heavy-chemical industry in the mid-1970s.

The ratio of the heavy and chemical industries to the manufacturing industry as a whole rose from 26.8 percent in 1962 to 56.3 percent in 1981, which was more than a half of the total manufacturing production. Korea is well on its way to becoming a full-fledged heavy-chemical industrial nation. The primary metal, steel, and in particular, construction industries marked a relatively higher growth pattern. Spurred by vigorous, war-related demands during the Vietnam War, and later by large-scale investment demands in the Middle East, the construction industry continued to register high growth and contributed to the rapid economic growth of the 1970s.

Also, with the increase in national income and in housing demands, the boom in the construction industry continued throughout the 1970s. The Korean construction industry harvested more than \$ 10 billion annually between 1980-1983 in a row. Construction orders dropped to \$ 6.5 billion in 1984, but this overseas slack was more than made up by a remarkable increase in government construction spending. The local construction market was valued at another \$ 7.6 billion.*

In keeping with the government's policy to support heavy industry, it has also actively promoted the construction of large ship yards. The shipbuilding industry in Korea has made rapid progress over the past decade. Total production and exports in 1982 were 3 and 6 times the 1974 level, respectively. By the end of 1982, the industry's outstanding orders amounted to 1.35 million gross tons, second only to Japan. There has been great technological progress in the industry. The industry started with building small ships for fishing and cargo transport. By taking advantage of highly skilled labor and positive government support, the shipbuilding industry was able to expand the product

* The Korea Chamber of Commerce and Industry: A Report on Prospects for the Nation's 10 Major Industrial Areas, 1985.

range to include sophisticated vessels such as oil tankers, product carriers, steamers, and drilling ships. Despite the difficult world market conditions, shipbuilding has developed into one of the most successful industries in Korea.⁵

Other industries also made noteworthy growth in the 1970s and early 1980s. In addition to construction and capital goods industries, which will be discussed in the next section, the sectors of whose importance the government never tired of stressing were basic materials such as iron and steel, petrochemicals, non-ferrous metals and refined oil. The government saw the importance of these industries as the backbone of a modern industrial economy, and proceeded to undertake risks that cautious entrepreneurs would tend to avoid by providing heavy capital investment in these industries.

In connection with a series of the Heavy and Chemical Industries Development Programs in the 1970s, the government drastically strengthened already generous financial support to these industries by guaranteeing commercial loans. Where foreign expertise was necessary, special incentive advantages were offered to joint venture partners.

Among basic materials, steel commanded highest priority by the planners. Notwithstanding the criticisms voiced by international agencies including the World Bank, the government already in the late 1960s decided to build a large-scale steel mill in Korea. Starting with the modest level of one million tons a year by Pohang Steel mill,⁶ expansion of production was undertaken in successive phases. Pohang Steel mill is now ranked the twelfth largest steelmaker in the world with an annual capacity of 8.5 million tons. Other steel mill complexes have been, and are projected, to be added, and by 1981 the total steel capacity in Korea annual production of 12.4 million tons. This covered about 90 % of domestic markets and some items of steel products began to be exported. Export sales in 1982 amounted to \$ 2.4 billion in 1982, making steel the number two export item in that year.

⁵ The Korean shipbuilding industry still faces several difficulties; low-grade technology, high dependency on imported machinery and low capacity use in recent years. However, it is expected to maintain a competitive edge over the industries of developed countries, which suffer from outdated equipment and high wage costs. Thus, Korea's market share is expected to rise as world demand picks up and Korean shipbuilding is likely to experience steady growth in the future.

⁶ This was built with the financing of Japanese loans included in Korea-Japan Peace Treaty reparation settlement, and with the help of a consortium of Western steelmakers.

The Korean steel industry uses highly automated production methods and benefits from scale-economies. Production is exceptionally efficient, running on near capacity. In addition, skilled and hardworking labor in the steel industry is still cheaper than abroad. This evidently made the Korean steel highly competitive in the world market.

After establishing large steel mills, various sectors that could serve as important steel-consuming sectors, were promptly targetted in the successive plans. In addition to the construction and shipbuilding industries, the government initiative turned to the automotive industry. Starting from a rudimentary assembly plant in 1962 that produced about 3000 cars and trucks annually, the industry was newly targetted in the early 1970s by adopting special measures to foster its development. These measures consisted of strong financial support and high tariffs on imported vehicles but none on knocked-down parts that could be repaired by myriads of domestic artisans.

The government's initial import-substitution policy promptly paid off. Already in the early 1980s, the automobile industry has enjoyed an annual double-digit growth, and is now considered to have a promising future. Production, which stood at 134,000 cars in 1981, increased 21 percent in 1982, 36 percent in 1983 and nearly 20 percent to 312,000 cars in 1984. Domestic and overseas demands for Korean cars are projected to cross the one million line in 1990. This rapid growth of the Korean automobile industry has been accompanied by a high domestic production level of parts and components. Low domestic production cost and much improved technology has enhanced the potential of this industry to become an export industry.⁷

C. Development of Capital Goods Industry

In recent years, largely as a result of intensified government support, the capital goods sector,⁸ machine tools and other heavy equipment⁹ in particular, produced for both domestic

⁷ The proportion of export sales in relation to gross sales does not yet exceed the 10 percent level. Export sales are, however, expected to increase rapidly, given the aggressive efforts of the Korean auto makers to explore foreign markets and the good reputation of Korean cars abroad.

⁸ "Capital goods" in general include the machinery and other equipment that enter into capital formation.

⁹ The share of machine equipment in total value added of capital goods (which included transport equipment) in 1979 was about 5 percent (Yearbook of UNESCC).

consumption and export, has developed very rapidly. The main argument for supporting capital goods production in a semi-industrial developing country such as Korea was that the pattern and volume of final and intermediate goods manufacture had advanced to the point where backward integration into capital goods production would permit considerable scale economies in 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-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 IDCs 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 had been relatively unaffected by protectionist measures in the world market; LDC penetration of developed country markets was still at an early stage; and capital goods were relatively skill-intensive, which would be unthreatening to the employment of unskilled labor in developed countries. Unskilled labor provides 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 the 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 percent)				
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-Sufficiency 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 (percent)
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-Sufficiency 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 exported rose to 33 percent from a mere 6 percent over the period. Electrical equipment (in particular transistors) and transport equipment (ships and boats) 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 ratio of domestic production to domestic demand of machine goods in 1981 exceeded 50 percent, a jump from 12.8 percent in 1971.

Among categories of capital goods, most vigorous progress in the past several years has been made in the electronics area. Riding on strong demands both at home and abroad, Korean electronics firms enjoyed a 38.7 percent rise in their production in 1983 and 26.7 percent growth in 1984. Their production is expected to see another 20 percent increase in 1985.¹⁰ The electronics appliances and parts to be produced by 1000 companies in Korea in 1984 were valued at 7 billion dollars. Exports accounted for more than 60 percent of the total production.

Thus, assuming a continuation of economic growth in 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.

¹⁰ The Korea Chamber of Commerce and Industry, Report on prospects for Korea's 10 major industrial areas, 1985.

3. OBJECTIVES AND STRATEGIES IN INDUSTRIAL POLICY

The broad objective of the Korean plans, as seen through the series of five-year plans that began in the early 1960s, is clearly the transformation of a subsistence agrarian economy to a modernized industrial power. More specific goals of the plan, however, can be identified with each plan period.

The early goals of the plans were establishment of a self-reliant economy (as opposed to one depending on foreign aid), the "modernization" of the economy, and maintenance of self-sustained economic growth.¹¹

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 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 exceeded, the "growth" objective was quickly turned into almost a national obsession for nearly everyone to pursue as a popular cause.

Around the time of 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

¹¹ See the planning documents of the Economic Planning Board.

line with the shifting comparative advantages in the world market. At the same time, policy concerns have been increasingly directed at social development, equity and the welfare of society.

Broad goals in the plan would remain 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 strengthening 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 been 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.

The basic strategies for attaining broad economic goals of the nation involved decisions on the 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 government emphasis on capital industry development as the corner-stone of future growth in the Korean economy. The incentive system has been continuously reoriented to develop industries within this sector and enable them to compete more effectively in the world market.

4. TYPES 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 types 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 secondly, a set of policies more directly targeted on specific sectors or industries for promotion.

In the case of Korea, the 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 types of these policy instruments are the subject matter of discussions in this section.

A. Macroeconomic-Policy Setting

In Korea, the main role played by macroeconomic policy-measures has been that of 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 macroeconomic 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 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).

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.¹²

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 the 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 plan (1967-1972). The First plan (62-66), largely a rehash of the ideas presented to the previous regime, was prepared in a hurry, simply to show the government's seriousness about economic development, and to provide a ground for more sophisticated, subsequent plans.

¹² 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 70s.

TABLE 4
PUBLIC-SECTOR INVESTMENT

(Unit: billion won in constant prices)

	Total Domestic Investment (A)	PUBLIC INVESTMENT			Composition (%)	
		Government (B)	State Firms (C)	State Controlled Firms (D)	(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.

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 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.¹³ 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. Sustained development in a largely market-oriented economy would be difficult without an adequate price system (taking into account the effects of subsidies, taxes and quantitative controls) that reflected relative resource scarcities.

B. Sectoral Policy.

In Korean planning the development of strategic sectors was 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 to indicate and establish an appropriate set of

¹³ 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.

incentives that could guide private entrepreneurs 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 promotion and labor intensity. Exports and employment were to be promoted 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 telecommunication). 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 administered within centrally imposed constraints by several ministries, notably Agriculture, Commerce and Industry, and Finance, and by special offices, such as the National Tax Administration.¹⁴

The biggest arsenal of incentives existed for exports. They consisted, at various times, of reductions in 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.¹⁵ The provision for accelerated depreciation allowed the manufacturing firms that earned more than 50 percent of the revenue in foreign exchange to write off from the tax an extra depreciation of up to 30 percent of the ordinary depreciation allowed by the tax law. Credit

¹⁴ For the details of incentive measures, see Hong, W. (1979) and World Bank paper (1981, No. 1469).

¹⁵ Real export incentives were maintained at a 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 standards.

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 percent. In quantity, the average annual increase in export credit reached as much as 40 percent of the increase in money supply between 1970 - 1976. In addition, such agencies as the Korean Trade Association were established to provide technical assistance in marketing promotions.

A quantitative assessment of overall price incentives given to Korean exporters was attempted in a World Bank study.¹⁶ Table 6 shows time series estimates of real effective exchange rate that measures the amount in the Korean won received by exporters per dollar of their exports. The indicator also includes indirect taxes and tariff exemptions.¹⁷ The effective exchange rate for exports was 264 in 1962 and fluctuated between 299 and 308 in the 1964 to 1970 period. It increased 30 percent to about 400 by 1973.¹⁸ and despite its fall in 1974, and 1975, still remained higher than its average over the latter half of the 1960s.

Although these measures are only crude indicators, they show some evidence for export incentives. The government emphasis on exports was clearly accompanied by increased incentives to export. The government, in fact, in addition to periodic devaluations, continued to adjust export incentive rates between devaluations in order to maintain the incentive rate at a relatively stable level in the face of more rapid inflation domestically than abroad.

¹⁶ See Westphal, L., & K.S. Kim, 1977. pp. I.1 - 25.

¹⁷ A more meaningful indicator should incorporate other incentive and disincentive instruments, such as all forms of subsidies including interest subsidies, access to imported inputs or price reductions on overhead inputs.

¹⁸ This was largely caused by the appreciation of the Japanese yen that contributed to a two and a half fold increase in the real value of exports during this period.

Table 6: EFFECTIVE EXCHANGE RATES FOR EXPORTS

(Annual Averages; won per U.S. dollar)

	Official Exchange Rate (Nominal)	Indirect Tax & Tariff Exemptions per Dollar of Exports	Real Effective Exchange Rates *
1961	127.5	-	-
1962	130.0	7.6	264.2
1963	130.0	9.1	276.1
1964	214.3	8.2	305.3
1965	265.4	11.1	304.6
1966	271.3	14.4	305.1
1967	270.7	15.7	298.8
1968	276.6	21.5	298.7
1969	288.2	22.7	299.4
1970	310.7	21.7	307.9
1971	347.7	23.1	328.6
1972	391.8	23.7	348.9
1973	398.3	21.5	396.5
1974	407.0	19.1	338.4
1975	485.0	14.0	320.9

* Include Indirect Tax and Tariff Exemptions.

Source: The World Bank (Westphal & Kim, 1977)

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 also expect suitable backing, 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 production began, but also quickly protected the products with an armory of barriers. These 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 levels on consumer and luxury goods 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 had a roughly similar form that 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 intermediate 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 particular industries the development of which was to be promoted. 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 to the rationalization of economic incentives.

The third plan that began in 1972 and subsequent plans essentially envisaged a relatively smaller role for public investment.¹⁹ The primary goal of planning for industrial

¹⁹ The earlier second Five-Year plan (1962-1966) was fairly comprehensive in scope and rigorous in content as it relied on the sophisticated input-output tables. This framework was an

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 in 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 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 petrochemicals. 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 path similar to the one 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 a 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

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. Subsequently, top policy-makers in Korea did not find that comprehensive, centralized planning would be of much material assistance in executing policy decisions. Instead, they adopted a more decentralized, "indicative" planning method.

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, adaptation and development.

In the wake of the plans for the electronics industry, the promotional policy quickly turned to heavy and chemical industries. In 1973, President Park officially initiated the campaign for the creation 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 who qualified. The usual support and incentives were provided for those firms that could export; and imports were restricted for those that 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 who 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 legislation 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 percent ownership.

These measures quickly led to the targeted sectors' increased share in exports. For instance, the share of heavy and chemical industrial products in total exports rose from 16.3 percent in 1972 to 25.0 percent in 1978. The electronics industry developed rapidly, starting from the assembly-line production of parts and components and progressing to the production of such complete consumer products as color televisions, microwave ovens, video tape recorders, stereo sets 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 strengthened. Rather than channel funds and adopt projects as opportunities arose spontaneously, an effort was made to direct the economy along the desired path, as its development evolved.

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 detail.

(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 will become 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 Corporation 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 in particular were abruptly increased after the government initiated support for the development of heavy and chemical industry beginning in the early 1970s. 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, quantitatively restricted the import of machinery goods immediately upon the initiation of domestic production. Firms using domestically produced machinery were allowed a 10 percent tax deduction in 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 agreements, and foreign assistance with production techniques. In 1977-1980, licensing agreements in the machinery sector accounted for about a third of all agreements approved in Korea.²⁰

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

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 study²¹ 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

²⁰ The total number of agreements during the period was 1974.

²¹ See Westphal (1977, pp 2-14).

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.²²

C. Consistency in Policy-measures.

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

In Korea's planning, it is significant to note that macroeconomic policy measures in the form of an overall price reform, preceded the sectoral development plan. The former 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 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.

²² 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.

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.

(1) Trade Regimes from a Historical Perspective.

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, it was able to transfer its development priorities more smoothly from import substitution to export promotion.

The change to export promotion policy could already be foreseen by the late 1950s, as the country only managed to survive on the basis of a meager industrial structure that could not last long without imports of essential raw materials, and as the U.S. threatened to cut off the indispensable flow of aid. The Park Chung Hee regime's alternative choice in 1961 thus was to consciously 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 in the nation's all-out war for survival.²³ Measures for moral incentives were equally forcefully adopted.²⁴ The Ministry of Commerce and Industry also set annual export targets for officials connected 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 irresistible pressures 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 (KOTRA), a non-profit government agency established in 1962. KOTRA now has over eighty branches around the world and a home office that engages in research 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 a general need for trading agencies that could direct imports of raw materials, and 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

²³ For details on the export-incentive system, see Section B of Chapter 4.

²⁴ 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.

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 thought 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 network throughout the world. These institutions were instrumental in helping many manufacturing firms to get a foothold in foreign markets.

The official policy to 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 percent a year with peaks of over 50 percent. 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 cliché in government and business circles with its overall contribution to real GNP growth estimated at about 45 percent for the 1962-1982 period and around 60 percent for the 1970s.²⁵

While the government intervention and discrimination were being used as a means of export promotion, policy-makers concerned with long-term developments were kept busy trying to see a little further into the future and provide guidance for directing industrial restructuring towards 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 in 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 percent, but only 7.1 percent in Taiwan and 0.8 percent

²⁵ This export success, however, should not make one forget that imports also kept growing at quite a 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.

in Hong Kong. Thus by 1979, textiles that alone accounted for over 40 percent of labor-intensive exports in the 1970s along with eight other manufactured articles like plywood, wigs, electrical appliances that accounted for another 25 percent, declined to 30 percent 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 protectionism 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 to 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 drastically 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 eclectic. Promotion of capital goods industry development in the 1970s reflects government policies of turning inward toward domestic markets as a no less important source for economic growth. It was felt that the deepening as well as the broadening in Korean industrial structure created a sufficient basis for import-substitution in the sector.

(2) Exports of Capital Goods and Technology.

Another important source of Korean exports has been the transfer of technology to other developing countries. Given Korea's experience in heavy and capital goods industries and the resulting acquisition of technological competence, it should come as no surprise that Korea was able to quickly develop a competitive advantage in exports of technology. The term "technology exports" is used here in a broad sense to include the transfer of all forms of technical and engineering know-how that may or may not be accompanied by overseas projects or by the sale of capital goods²⁶

For the five years from 1977 to 1981, total contracts for project-related exports amounted to \$ 43 billion, while non-project-related technology exports were estimated at about \$ 8 billion.²⁷ Among the categories of project-related technology exports, the most important one has been non-industrial in nature, which has been transmitted via Korea's massive construction projects in the Middle East. In addition to overseas projects to establish and operate productive systems, Korea's technology transfer have also included the form of capital goods exports accompanied by technical and managerial services.

Korea's success in technology exports is based on its technological capabilities gradually expanded through human and institutional capital accumulation. Export activity by enlarging the scope of market competitiveness stimulates indigenous technological effort. The earlier strategy of export-led industrialization has thus resulted in the broadening and deepening of industrial competence, which further led to dynamically changing Korea's competitive advantage to more technology-intensive industries.²⁸ In this regard, government policies have been instrumental in providing the driving force behind Korea's exports of capital goods and other technology-related projects, enabling Korea to rapidly adjusting to dynamically changing comparative advantage.

Until well into the late 1970s, Korea's export industries had heavily relied on imported equipment. The government had instituted incentive structures that favored use of imported capital goods. Measures that discriminated against use of

²⁶ It also includes government-to-government technical assistance and training.

²⁷ Westphal, L., et al, 1984, p. 504.

²⁸ Direct foreign investment and international subcontracting have not been important in most Korean exports. Technology transfer emanating directly from foreign investment has not been a significant factor.

domestically produced capital goods included tariff exemptions on imported capital goods (automatic for exporters and for selected import-competing industries), and liberal licensing of imported capital goods often financed by credits at subsidized interest rates.

In 1973 the government revealed the Heavy and Chemical Industry Development Plan, a long-term plan covering the decade of 1970s that called for the rapid build-up of capacity to manufacture capital goods. The plan was heavily focused on import substitution of fabricated structural elements (including ship-building), heavy equipment used in industrial plants, and other social overhead facilities. The earlier policy bias against the domestic capital goods sector was quickly reversed: tariff exemptions on imported capital goods were eliminated, import-licensing was made more restrictive, and among other things, the government established specialized credit facilities to provide financing on competitive terms to domestic firms producing capital goods.

The focus on import substitution, however, had to be abandoned soon. Export activity came to be seen as indispensable for taking advantage of scale economies required for the production in heavy industry. The original plan was modified to encompass both import-substituting as well as export activities. Emphasis was also placed on promoting both the assimilation of imported technology and technical services exports²⁹ These measures were supplemented by other provisions dealing with the promotion of local research and development, the education and training of technical personnel, and the establishment of an infrastructure of scientific and technological institutions. Promotion of technology-related industries in Korea was seen as being in line with its dynamic comparative advantage, and the government began to use capital goods and technology exports as a strategy to develop industrial competence. The acquisition of technological capability was seen as being fostered most effectively from export activity.

Once the government decided as an official policy to accelerate the development of capital goods and related services, various schemes that had already existed for other exporters were quickly reinforced to benefit specifically the producers of capital goods exports. Such measures have included; preferential access to credit for the financing of investment in such industries, preferential export financing³⁰ as well as insurance

²⁹ Two legislative acts passed in the mid-1970s; Technological Development Promotion Act and Engineering Services Promotion Act, contained such provisions.

³⁰ According to a study (Westphal, et al, 1984. p. 510), in 1980 the basic interest rate charged to exporters of capital goods and related services by the Korean Export-Import Bank was 8

and guarantees against trade risks,³¹ and the government-initiated search for and negotiation of overseas contracts by prospective exporters. In particular, producers of overseas project-related exports have received tax credits up to 50 % of their taxable profits and deferment of taxes on certain categories of exports-related income.

The government have also used the large business conglomerate groups in Korea, known as Chaebol,³² as the principal agents of capital and plant exports. Some of these conglomerate were accorded a special status of an integrated trading company³³ that were legally authorized to combine production and overseas marketing activities. The roles played by the chaebol in company with several Korean construction firms in expediting capital goods-related export activity have been overwhelming. According to a recent estimate,³⁴ 13 Korean firms were listed among the 201 largest international contractors, accounting for 8.1 % of the value of international contracts won by these contractors.

B. Financing and Credit Policy.

Perhaps one of the most important instruments used for implementing sector-oriented industrial development in Korea is public-sector control and allocation of credit. Financing of investment for development projects has been mostly provided 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.³⁵ The prevalent form of financing has been provision of loans with subsidized interests and guarantees. Usually, these credit facilities are combined with other fiscal and tariff incentives as well as some public-sector assistance in scientific and technical research.

%, and that charged to the buyers was 8.5 %, while the preferential rate on ordinary exporters was 12 % and the non-preferential rate was 24.5 %

³¹ The Korean Export-Import Bank, established in 1976, operates insurance and guarantee schemes, along with provision of export credit.

³² see Chapter 5, Section D.

³³ See the preceding section.

³⁴ Engineering Export Promotion Council of India ; Project Export News (July 15, 1981). The Hyundai group (ranked eight), followed by two other Korean firms, was the largest contractors among the developing countries.

³⁵ Major financial reforms in 1964-65 drastically enhanced the intermediary role of banks in private capital markets.

The government itself, with a budget representing 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 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 structure, 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, since it defines the approaches and targets 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 loans and also hold equity in these firms. For instance, the loans from the Korea Development Bank alone currently accounts for 15 percent of the nation's total outstanding debt. 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 development banks that specialize 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 issue 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 development, and to a certain extent had to comply with orders and regulations from the Ministry of Finance. Thus, excluding the informal, curb-market loans that are generally available at exorbitant 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 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 in obtaining credit. Only recently have some attempts 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 emphasis on "policy loans" concerns the neglect of the microeconomic specifics in approving the worth of individual projects. The government's policy of targeting 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 merits of individual projects. These weaknesses were manifest in the late 1970s when a number of government-supported 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 to be 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, it was not uncommon to find large firms having liabilities five to ten times as much as their net worth. Such firms were burdened with interest payments excessive in relation to their equity, which 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 continuously import foreign resources and technologies. Although the earlier interest-rate and fiscal reforms succeeded in stimulating domestic saving,³⁶ Korea has been in constant need of foreign capital as its economy continues to expand.

³⁶ Domestic saving as a percentage of GNP rose from a mere 3 percent in 1962 to 16 percent a decade later.

Historically in the period preceding the beginning of the move for industrialization, capital inflow started with 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 channelled through multilateral donor agencies, such as USAID, Japanese Overseas Cooperation Fund, the World Bank, and the Asian Development Bank, a growing share in loans took the form of supplier credit from the American or Japanese Export-import Banks.

During the 1970s when Korea's progress became evident and was proving its credit worthiness, it 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 percent in 1972 and fell to 15 percent 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 with 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 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; then textiles in the early period, and electronics and petrochemicals in the later period.³⁷

³⁷ 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

TABLE 7
SOURCES OF FOREIGN DIRECT INVESTMENT (1962-82)

(in \$ million)								
Year	1962-	1967-	1972-	1977-	1981	1982	Total	Share
Country	66	71	76	80				
Japan	0.7	40.8	376.9	180.3	34.6	41.6	675.9	47.1 percent
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

The basic policy on foreign investment followed the line of an outward-looking strategy for development. Foreign capital was welcomed as long as it could contribute to the development of "priority" sectors, the transfer of technologies 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.³⁸ The second provision exempts foreign invested enterprises from income, corporate and capital gains taxes as well as from import duties under reasonable conditions. Provisions covering a technology

domestic resources or the commodity distribution system, have all been open to foreign investment.

³⁸ 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.

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 repatriation 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 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 an improved investment climate in Korea, has already set itself an ambitious 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 assistance. 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 important compared with India 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. Foreign investors have been instrumental in introducing production technology and management techniques, and in facilitating the transfer of overseas information and knowledge.

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 savings from foreign sources were three times as large as the domestic counterpart in the early 1960s, two decades later the relationship had been reversed with domestic savings 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 entrepreneurs, 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.³⁹

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 provided easy credit in efforts to promote exports. Once the government was convinced the entrepreneur could succeed, this would usually have snow-balling effect, success breeding success, since the government credit was largely based on 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 empire-building in business.

³⁹ 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 8
CONTRIBUTION TO VALUE ADDED BY CONGLOMERATES

No. of Conglomerates	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.

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 flowed 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 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 tended to be large in comparison with their Korean counterparts. Size was also an important factor to consider in joint ventures with foreign partners, since there was a danger that, if too large, the latter might dominate and control its domestic counterpart.⁴⁰

The government's preferred 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 the government's tight control, and credit was distributed mainly in line with the

⁴⁰ Another important benefit from supporting big business relates to the political funds the President could count on from them.

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 the 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 an insignificant status.^{*1}

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,^{*2} in 1980 external funds -- those borrowed from domestic banks and foreigners -- for the top 50 enterprises in Korea accounted for as much as 85 percent of the total. This ratio was much higher than that of Japan or the U.S.A, which showed 38.1 percent in 1977 and 29.1 percent 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.

E. Labor Policy.

Korea's early strategy of emphasizing labor-intensive manufacturing exports resulted in rapid increases in labor demand in the industrial sector. Rural labor quickly began to be absorbed into the urban industrial sector, with consequent upward pressure on industrial wages. This threatened Korea's competitive advantage in labor-intensive exports. As a result, the government's labor policies had to cope with the changed labor market conditions. This section examines government policies that have affected labor market, employment conditions and wages, and their implications for industrial development in Korea.

^{*1} Alarmed by the growing concentration of wealth, the government recently instituted policy reforms in which countermeasures against trust-formation as well as more active support of small and medium firms were sought.

^{*2} Hancock Ilbo, September 27, 1981.

(1) Productivity and Wages.

In Korea, growth in output and employment in the industrial sector has been much faster than that in the non-industrial sector. Rapid growth in industry has been exerting upward pressures on industrial wages. Nonetheless, there is evidence to indicate that real wages, in a sluggish response to labor markets, have on the whole lagged behind productivity increases. The industrial real wage rate in fact remained virtually unchanged during the earlier period of industrial growth (1961 - 1966).

Between 1967 and 1978 the real wage rate increased by more than 370 % (table 9). It rose, however, in a pattern of lagged response to spurts in productivity growth throughout the period. It is significant to note that labor productivity grew almost 50 % faster than the real wage rate. After 1977 real wages gained some ground over productivity increases. The recent gains in wages reflect the impact of the new government policy for structural adjustment in the labor market, which has been instituted largely in response to increasingly militant Korean labor unions' demands.

The slower growth in real wages relative to that in productivity is also reflected in labor's declining share in output.⁴³ As shown in Table 10, wage earnings as a percent of either gross output or value added in manufacturing steadily declined in the period from 1958 to 1976. For instance, labor's share in manufacturing value added declined from a high of 36.6 percent in 1958 to a low of 23.0 percent by 1975. The recent data show only slight increases in labor's claim on output.

Another aspect of Korea's low-wage based growth strategy relates to long work-hours of a Korean worker. The Korean worker on average worked 50 - 53 hours per week, which exceeded the averages in other industrializing countries in Asia (Table 11).

⁴³ Note that the rate of change in labor's share of GDP reflects the difference between the rates of change in real wages and productivity.

TABLE 9

AVERAGE REAL WAGE AND LABOR
PRODUCTIVITY IN MANUFACTURING

	Rate of change (%)		Index (1966=100)	
	Real wage rate	Labor productivity	Real wage rate	Labor productivity
1967	10.4	17.7	110.4	117.7
1968	13.9	19.8	125.7	141.1
1969	21.7	26.5	153.0	178.4
1970	11.5	12.6	170.6	200.8
1971	2.4	9.8	174.7	220.5
1972	1.9	9.0	178.0	240.4
1973	14.4	10.4	203.7	265.4
1974	8.9	11.2	221.8	295.1
1975	1.5	11.6	225.1	329.3
1976	17.7	11.9	265.0	368.5
1977	20.6	3.9	319.6	382.9
1978	17.1	11.5	374.3	426.9

Source: For wage series, Bureau of Labor;
For productivity series, Center of productivity

TABLE 10

THE RATIO OF WAGE EARNINGS TO
GROSS OUTPUT AND VALUE ADDED
IN MANUFACTURING

	Wages as percent of gross output	Wages as percent of value added
1958		36.6
1960	11.3	30.9
1963	9.7	26.2
1966	9.1	24.4
1967	9.7	25.8
1968	10.0	25.5
1969	10.2	25.1
1970	10.3	25.1
1971	9.7	23.4
1972	9.4	23.5
1973	8.7	24.8
1974	7.9	24.2
1975	8.0	23.0
1976	8.6	24.8

Sources: Korean Industrial Bank; Census on Mining and Manufacturing Activities, various issues;
Economic Planning Board, Annual Reports.

TABLE 11

PER WORKER WEEKLY MAN-HOURS IN
SELECTED EAST ASIAN COUNTRIES.

(Unit: Man-hours)

	1963	1964	1965	1966	1967	1968	1969	1970
South Korea	50.3	56.0	57.0	57.4	58.8	57.6	56.3	52.5
Phillipines	43.6	43.4	45.6	46.7	46.7	--	--	--
Singapore	47.7	47.3	47.2	47.4	47.4	48.3	49.2	--
Thailand	45.7	45.7	45.7	46.2	51.3	--	47.8	--

Source: International Labour Office, Statistical Yearbook, 1970

Hard work and efficiency have been the hallmarks of the Korean labor force. These workers have, nonetheless, been underpaid in relation to their productivity. Thus, the cheap labor argument is indeed plausible in accounting for Korea's competitive edge in labor - intensive exports, especially during the early industrialization period.

The most straightforward explanation of labor's declining share in income would seem to be repressive wage policy by the government in the context of the weak, ineffective roles played by the Korean trade unions. It may be recalled that the industrial real wage rate remained virtually unchanged in the period between 1961 and 1966. This can be attributed to the excess supplies of Korean rural labor to industry at that time. However, the theory of redundant rural labor cannot explain the declining trends in the relative position of industrial labor in subsequent periods. The rural sector in Korea began to experience shortages of its work force after about 1967, which at the same time started to tighten the labor market in the industrial sector, thereby exerting upward pressures on industrial wages.

(2) Trade Unions and Government Policies.

Trade unions in Korea have never been a strong political force. Historically, Korean unions have not been concerned so much with the issues relating to working conditions or wages as with such abstract ideas as the cooperation of labor in working towards an egalitarian industrial democracy. Also, there has been no strong tradition of labor movements in Korea. Workers in general have too low a level of class consciousness to join trade unions. Currently, officially registered union members account for only about 20 percent of the total industrial work force. The general pattern of labor organization in Korea is that unions tend to organize at the enterprise level. Collective bargaining is carried out by local unions within one enterprise. There has been a general lack of coordination of union activities at the national level. This internal company unionism has precluded the possibility of the unions creating a united front on common economic and social interests, thereby diminishing the unions' impact on national policy decisions. Moreover, critics have argued that the existing unions that claim a national representation have more or less played the role of political puppets subservient to management and the government. For this reason, a feeling of apathy and insensitivity towards union activities has prevailed among rank-and-file union members.

It is worth noting that the government has promoted the development of internal company unionism as a useful means of controlling labor movement. Following the military coup in 1961, Park's regime was apprehensive that the trade unions might develop the ability for mass mobilization in political affairs. The government actively prevented unions from formulating and promoting policies on issues related to national development.

As for the relationship between government and labor, a distinction must be drawn between the case of public-sector enterprises and that of private-sector enterprises. The public sector, in spite of the recent efforts for denationalization, still occupies an important position in the national economy. It commands a substantial share of the country's total industrial productive capacity. In these enterprises, the government exercises a directing and guiding influence on the allocation of resources, including employment and payments of labor, in accordance with national priorities. Not only is work stoppage illegal, but also the government finds the solution to labor disputes, more or less as it sees fit. There has been no clear evidence that the government would be willing to relax its 'command orientation' in the public sector.

Within the private-sector enterprise, both management and labor parties are supposed to reach mutual agreement on matters related to working conditions and wages. But the enterprises

where these matters require an agreement between both sides have in reality constituted a small fraction of the total, and in the case of other firms the management has simply informed the union of its decisions on wage- and work-related issues. Even in cases where joint consultation between both parties was allowed, union representatives were passively included in decisions. For practical purposes, joint consultation has often worked as a rather one-way communication from management to labor. In cases of disputes deemed of relevance to national security, the government has frequently intervened as an arbitrator. However, the government has usually taken sides with business interests, since to do so has often been considered to be in the national interest. Government lack of interest in labor is similarly evident if one examines the modern history of Korean labor legislation. As compared with other industrializing countries, say, in Latin America, the scope and coverage of legislation related to welfare conditions of the worker have not been extensive in Korea. Even the minimum wage legislation in Korea is of relatively recent origin.

Reflecting such tendencies in both labor-government and labor-management relations, labor conflicts have steadily increased since the early 1960s. For example, between 1966 and 1971 the total number of industrial disputes that involved negotiations with labor unions was 675, out of which in 66 cases actual work-stoppages took place.** In about 70 percent of these cases, the main cause of dispute concerned wages. The rather low proportion of work-stoppages seems to be explained by the government's upperhand methods of settlement. In an attempt to expedite the settlement of disputes, the government has provided various institutional mechanisms, such as Wage Boards, Industrial Tribunals, and the Labor Adjustment Committees. These mechanisms have not, however, offered a fitting means for direct involvement of workers. The available evidence indicates that in the majority of these settlements workers' substantive interests have not satisfactorily been defended.

During the early 1970s, as the average real wage rate began to rise in response to tight labor-market conditions, Korea was newly threatened with the rapid deterioration of its competitive edge in labor-intensive exports. The government quickly enacted a series of measures to restrain increases in wage rates by curtailing the power of the trade unions. An example of this is the 1971 Special Emergency Law enacted under the umbrella of a series of national security provisions: In a situation of emergency threatening national security, the settlement of labor disputes would automatically fall under the jurisdiction of the government-controlled Labor Tribunals; open walk-outs would then be illegal; other forms of restrictions would be imposed on

** For data on industrial disputes, see the Bureau of Labor, Yearbook of Labor, 1978.

collective bargaining; and special rules are stipulated in dealing with the foreign-owned or publicly-owned enterprises, which would prohibit walk-outs by workers employed in these enterprises.

Recently, the government introduced a series of paternalistic labor laws, including the upgrading of wage structures more in line with the market conditions. As Korea's comparative advantage began to shift into more capital-intensive industries, unlike the situation during the industrial take-off of the 1960s, and early 1970s it had no longer much to gain from a policy of wage restraint. The average real wage rate in fact rose quite rapidly, in contrast to the early period of export drive.

Despite these new measures, the frequency of labor conflicts continued to rise. For example, between 1975 and 1979 more than 5000 cases of labor disputes were reported. In about 10 percent of these cases, work-stoppage took place. As before, the predominant cause of the dispute was demand for higher wages. The impact of the new wage legislation has yet to be seen. Certainly, work democracy has not been high on the list of national priorities in Korea, and labor policy is not one of the finest chapters of its industrial policy.

6. ORGANIZATIONAL STRUCTURE AND IMPLEMENTATION.

A. Organizational Structure.

Such plans and strategies exist elsewhere. However, what is probably unique in the case of Korea, certainly different 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 mechanism for examining the state of the economy and drawing up appropriate plans for improving it. The EPB has a substantial budget of its own with 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 deputy prime minister of the cabinet, which enabled him to pull rank on his colleagues. This assured the EPB's effective coordination with each ministry which had its own special planning unit for designing and implementing the plans at the ministerial and lower levels. The biggest strength of the Planning Board has, however, been the interest and support of the president. The Board usually dealt with what he considered to be 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. Before the existence of the Planning Board, foreign experts had been invited to draw up more sophisticated plans, which could 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 have been entrusted with the responsibility of getting specific projects done effectively and efficiently. Among the ministries, more heavily involved in the design and execution of national planning have been such ministries as Finance, Commerce and Industry, Construction, Agriculture and Fisheries, and Energy and Resources.

Public enterprises are generally supervised and controlled by one of the 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 sometimes 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 independence in 1945 had to be ideologically committed to maintaining a capitalist economy in which the private sector played a central role. Politically and economically, the regime has had no options but to remain comparatively liberal.

In this context, planning in Korea, apparently played the role of providing little more than a framework, leaving most practical decisions in the hands of private economic actors. Thus, plans were supposed to indicate only directions, offering incentives to those who complied with them, but not, in principle, forcing 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 course, 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.

Any national plans, if they are to be implemented, should be based on as much of a broad-based social consensus as possible. That is, however sophisticated and well-designed the plan may be, if it lacks a broader view which integrates and reconciles 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 feedback from diverse interest groups. This implied receiving feedback from, and interacting with local leaders and various advisory committees that usually consisted of officials, industrialists, businessmen and academics. 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 between the overall policy framework and 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 targets⁴⁵ 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 coefficients of variables 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 of maintaining 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 who complied with these, but there were, in principle, no mechanisms for enforcing a complete cooperation from the private sector.

The implementation of the plans, 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

⁴⁵ For instance, in formulating the Second Five-Year Plan, the comprehensive resource planning framework based on a sophisticated dynamic input-output model was employed to calculate the required amount of investment at the sectoral level.

was no effective way of enforcing a system of direct material 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. Types of material incentives were already referred to in the previous discussion. Here, examples of moral incentives, along with some disguised forms of coercion will be elucidated.

First, the highest priority government tasks such as economic growth, industrialization, export development or priority-sector development usually received the 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 its 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 out for promotion.

In addition, if an industrialist failed to achieve the desired goal, this would provoke all the subtle forms of censure, of which the government was capable. First, there was bureaucratic intervention in the form of exhortations, which went so far as to include even a direct call from the president to the concerned business leader. If an industrialist failed to comply with policies, this would invoke the brandishing of the stick by the government. For instance, most ministries have the administrative power to regulate activities of individual companies. The Ministry of Commerce and Industry, which must approve the establishment of individual firms, can insist on certain policies regarded as desirable by the government in return for its approval. The EPB can also influence activities of an individual industrialist by denying or approving joint ventures and technology licenses involving foreign investment. The Ministry of Finance regulates the Banks, and the flow of funds can easily be denied to credit-hungry companies if they fail 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 has been able to prevail on the private sector to follow its policies. Indeed, getting the private sector to fall into line could not be accomplished without a great deal of social tension. For instance, 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 switch to export promotion, the industrialists were encouraged to sell more abroad even if this was a completely new activity for them and did not look profitable. Strategic industries were advised of the advantages of diversifying and upgrading, and quickly reprimanded if they did not.

Apart from the 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 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 from 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 to react more effectively to constantly fluctuating domestic and international economic situations.

7. THE IMPACT OF INDUSTRIAL POLICY.

If the success of policy measures is judged on the basis of how closely the targeted goals have been achieved, Korea's industrial policy can unquestionably be claimed as a case of success. Comparisons between planned targets and actual performances are shown in table 6. In all the plan periods except that of the Fourth Plan, which mainly coincided with the recent world recession, the economy's performance in GNP, exports and industrial output, actually exceeded the target goals by substantial margins.

Korea's success 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. 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 coercion, it would be difficult to imagine Korea being what it is today.

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

Comparisons of Planned Targets and Performance
(1962-1981)

(Unit: Real Average Inc. Rate.%)

	The First Plan (62-66)		The Second 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	Performance
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 Commodi- ties	28.0	38.5	17.1	33.8	22.7	32.7	16.0	12.0		11.4
Import of Commodi- ties	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, really serious comprehensive planning began with the Second Plan (1966-1971) which, among other goals, stipulated its central objective as attaining the maximum 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 program 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 achieved 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 at about 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 the exchange rate to the free trade level, free access to imported inputs for exporters and subsidized 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 disincentives to motivate them towards acceptable performance.⁴⁶ 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.

⁴⁶ 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 largely favored agriculture, but also those industries within manufacturing in which opportunities for substantial import substitution remained.

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 goods. The government 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.

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, construction machines and heavy equipment for power plants, which leaves open the possibilities of increased export activities. Toward the end of the 1970s, about a third of total capital goods sector output was already being 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 government's 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 undoubtedly 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.*7

B. An Overall Assessment.

Finally, as regards the overall role of the government in promoting industrial development in Korea, some orthodox economists have contended that Korean industry has succeeded in

*7 Studies for developed countries generally show that substantial inter-industry linkage effects can be expected from an expansion of capital goods industries.

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 while operating within a basically market-oriented system. Although the impact of industrial policy cannot be accurately gauged, from the perspective of actual achievements in relation to the intended 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 the framework of a complete laissez-faire system. It is hardly possible to think of the Korean miracle without the government-initiated guidance that led to the active cooperation of industry.

8. PROBLEMS AND ADJUSTMENTS IN INDUSTRIAL POLICY.

A. Issues in Structural Adjustment.

In the immediate years following the second oil crisis in the 1970s, economic growth in Korea had considerably slowed down after the rapid growth of the preceding two decades. The overall growth rate of GDP declined from an average of 10 percent during the period of 1970-1978 to 6.2 percent in 1980-1982. Industrial and mining output showed a similar decline from the high annual growth rates of over 10 percent in the same period to 7.2 percent and 3.7 percent for the years 1981-1982.⁴⁸ The rate of inflation in Korea averaged 12.3 percent in the 1960s, rising to 17.7 percent in the 1970s. These rates were far greater than the averages in other industrialized countries (9.2 percent for the US, 7.4 percent for Japan, and 9.8 percent for Taiwan during the 1970s), even considering the fact that the inflation in Korea was relatively more severely affected by 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 percent by 1982, the rising levels of foreign 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 1970s, the subsequent world-wide recession and the political crisis following the death of President Park in 1979, many recent problems facing the Korean economy -- chronic inflation, accumulated 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 over last twenty years.

⁴⁸ In 1979 real GNP declined by 6.2 percent, the largest negative figure since 1953. However, this was attributable to the large drop in agricultural output (-24 percent) caused by unfavorable weather conditions that year.

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 produced some success, although from a qualitative point of view the results have in many areas been disappointing.

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

Next, the government, in an attempt to expedite attainment of the target-goals, has tended to reward the more successful exporters by basing its support on the quantitative results of their exports. Not only has this led to an economy-wide inefficient use of resources, but it has also created a serious structural imbalance biased against development of domestic goods industries. In addition, such a support system tended to favor the production of assembly-type exports which usually rely heavily on foreign raw materials, normally leading 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 has plagued the economy since the mid-1970s.

Many of these problems were recognized both by the government and the private business sector. The government has recently attempted to find new solutions by modifying the structure of previous industrial policy. The more recent and current policy plans began to focus on measures for correcting the many distortions and imbalances that resulted from the earlier policies for overambitious 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 shift of emphasis in policy plans from sector to sector that has continuously evolved over time.

In the early plan-periods, priorities were placed on infrastructure building, which was closely related to the construction industry. Subsequently, there was more stress on labor-intensive light industries. Then came heavy and chemical industries, with the emphasis currently shifting to the electronics industry. Now, as the economy is diversified,

technologically sophisticated, and competitive in international markets, the government has currently been considering gradually reversing the earlier strategy of focusing on the development of selected industries to more economy-wide liberalization measures that can benefit a large number of sectors, more or less, indiscriminately. The word, "liberalization" must, however, be understood in a restricted sense as largely confined to imports. Import liberalization 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. The feeling prevailed within government circles that increased decentralization was needed in economic policy, leaving a greater autonomy to the private sector.

B. Recent Policy Reforms.

Indeed, with the Chun government coming into power in 1980, basic policy reforms have been undertaken to achieve price stability and an improved distribution of income along with the objective of continued high growth. As "economic liberalization" has become 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 indigenous technologies. To restore economic stability, policy measures should include tight monetary policy, reduced government intervention in the allocation of credit, a governmental policy of financing budget deficits with a minimal impact on the money supply and increased capital utilization.

The new strategies also call for the strengthening of small- and medium-sized businesses. The establishments falling into this category play an important role in the economy, since they

employ more than a half of the total labor force. Thus, 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.

In this regard, the government has recently initiated measures to block dominance on the domestic market by a small number of giant enterprises. According to a EPB plan, the government will encourage competition among domestic firms by strengthening its import liberalization and tariff reduction policies. Also, the government permit system for setting up new firms to trade in monopolistic or oligopolistic goods will either be abolished or shifted to a registration system and foreign investments will increasingly be welcomed in a wider range of businesses.

In 1984 the government released a list designating 136 firms producing 71 products as so-called market dominating enterprises which were to be subjected to surveillance on pricing and unfair trade practices by the EPB's Fair Trade Commission. There was the particular concern about what they regarded as excessive profits by these companies and overprotection from competition by imported goods. The average import liberalization rate for the designated monopolistic or oligopolistic items is still considerably lower, compared with the overall average. According to a recent EPB survey, in 1984 the import liberalization rate for the oligopolistic items was 37.5 % compared with the overall average of 80.4 %. Tariff rates for these items averaged 41.5 %, considerably higher than the overall average of 23.7 %. The import liberalization rate for these items was planned to be raised from 62.4 % in 1984 to 97 % by 1988. At the same time, the average import tariffs imposed on those products are to be reduced to an overall average level over time.

Apart from the purpose of trust-busting, increases in the import liberalization rate has been envisaged as an instrument of the overall trade liberalization measures. The import liberalization rate was scheduled to increase, for example, from 76 percent in 1982 to 92 percent by 1986 (calculated from Table 9), and the gradual replacement of non-tariff protection by tariffs will be granted for a limited time period. These measures have been incorporated in the Fifth Five-Year Development Plan (1982-1986), which contains 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 is vital for sustained economic growth since Korea's limited resources must be allocated more efficiently than ever before.

Stabilization measures quickly led to the restoration of price stability with the wholesale price increasing only 2.4 percent in 1982⁴⁹ in contrast to close to 40 percent inflation in 1980.

The new measures to promote small and medium firms have also produced results; These enterprises are becoming an increasingly important part of Korea's industrial base. Small- and medium-sized business comprised 28.1 percent of the country's total businesses in 1983, compared with 27 percent in 1978.⁵⁰ Their combined output rose from 31.7 percent in 1978 to 36.6 percent in 1983, while the value-added of those firms increased from 33.9 percent to 36.6 percent.

It remains debatable whether the new concept of "economic liberalization" can ever take root in a 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 to imports based, more or less, on the principle of reciprocity.⁵¹ Preferential access to credit under favorable terms still is provided to exporters; the Bank of Korea offers a favorable exchange rate to exporters especially those 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.

⁴⁹ The fall in commodity prices abroad, including oil prices, also contributed to the drastic reduction in the rate of inflation.

⁵⁰ The Economic Planning Board, the 9th Industrial Census, 1984.

⁵¹ Its purpose was really to help avert the impact of trade barriers abroad, and in any case tariffs will not drop below 20 percent.

TABLE 13

IMPORT LIBERALIZATION SCHEDULE BY INDUSTRY (NUMBER OF ITEMS)

Product Category	Total Items	Items 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 Machi- nery, 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

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 in the past. Thus, this flexibility and pragmatism that lack a strong ideological bias in designing industrial policy are the hallmarks of Korea's success in 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 is thus 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 questionable.

1. The Sino-cultural heritage.

The dynamics of a country's development 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 have been no strong social discriminations because of differences in religion, and no deeply-rooted class structure. Consequently, the social mobility of labor is relatively unrestricted by social 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. Certain of its 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.

However, one would not expect the Confucian influence on economic development to be altogether positive. There are other aspects of the heritage that can be considered inimical to

economic development. For instance, from the perspective of the Confucian value system, the social role of businessmen and merchants is to be despised. In contrast, social prestige is accorded to the positions of government officials, soldiers and scholars. The theory of Confucian influence cannot then explain the surge of the entrepreneurial class that has taken place since the beginning of Korea's modernization effort. 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 in advance of that existing today in other developing countries. Although public expenditures on education in Korea have been low by international standards, it 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.⁵² Large investment in human capital has yielded a highly skilled labor force, at the same time providing the social prerequisites for entrepreneurial success. The reasons for the high growth in labor productivity observed throughout the period of Korea's rapid growth can be partly traced to its well-educated, and well-disciplined labor force.

3. Political will and stability.

Political factors undoubtedly contributed to the success in implementing new strategies for development, formulated in the early 1960s. Since the military coup in 1961, Korea has had strong and stable governments motivated and able to impose far-reaching economic policies. With the help of competent technocrats, the government has been able to formulate 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 by 5.5 percent per annum in the fifteen years since 1960. It was only during the early 1960s that

⁵² 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.

real wages were relatively severely suppressed so that Korea could gain a competitive edge in exports of its labor-intensive goods.

4. Favorable international environment.

It is important to note that Korea's earlier export success was achieved under rather unusual international circumstances. In retrospect, the two decades following the Bretton Woods system until the oil crisis in the early 1970s represent a "golden age" of international trade and investment. During this period, not only were supplies of international capital at reasonable borrowing terms relatively abundantly available, but also many industrialized countries could attain and sustain near full-employment growth, which further stimulated 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 immediately following the first oil crisis in the early 1970s. Not only has the volume of world trade stagnated, but also the neo-protectionism in industrialized countries appears to have discriminated against exports from developing countries. The prospects of international trade for developing countries in the foreseeable future are not very 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. The changed world-economy environment today would make developing country efforts to replicate the Korean-style, export-oriented development much more difficult.

5. Other factors.

Among the other special factors that contributed to Korea's success are the high levels of foreign aid Korea received throughout the 1950s and the early 1960s, which enabled the government to rapidly develop the infrastructure required for subsequent industrial growth. Over the 1960-75 period, about 40 percent of total investment in Korea had already 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 capital, made accessible to Korea at reasonable interest rates largely in response to its superb export performance.

It is also worth noting an historical event in the world that influenced the pace of Korea's industrialization. South

Korea participated militarily in the Vietnam conflict during the late 1960s and the early 1970s, and provided war-related offshore supplies to the U.S. troops. Korean participation in the war efforts immediately resulted in substantial foreign exchange earnings, which subsequently facilitated rapid development of Korea's basic industry. In particular, steel, machinery and other heavy manufacturing activities seem to have benefitted from the offshore procurement arrangement.⁵³

Lastly, related to the issue of human capital, good management at the firm level as well as the high quality of the labor force have been fundamental strengths of Korea's industrialization process. The Korean manufacturing sector has been characterized by efficient factor use and high rates of capacity use. For instance, although such capital-intensive industries as steel, petrochemicals, shipbuilding and machinery have recently expanded quite rapidly, the average capital-output ratio for the manufacturing sector has continued to remain very low by international standards.⁵⁴ On the other hand, 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.

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 conducive to development did already exist, and this indeed helped government policies to work. But in the final analysis, it was largely a set of industrialization strategies carefully designed and effectively implemented that initially set the whole process of development in motion. The bases of such policies have been central direction of flows of finance, control over allocation of investment, and influence on flows of trade and hence on the evolution of the structure of industry. This industrial policy was instrumental in achieving the national goals of growth and development, mainly through administrative guidance of industrial development and a directed allocation of resources.

Perhaps most significant is the early recognition by the government of the need for a change in policy towards export-orientation. The efficiency of factor use can be related to the timely orientation of Korea's development strategy. The point is

⁵³ According to an estimate (Kim, K.S., 1970, p.28), Vietnam-war related revenue accrued to S.Korea for year 1967 alone reached as much as \$ 185 million, accounting for about 4.0 % of Korea's GDP in that year.

⁵⁴ For instance, the gross incremental capital-output ratio was estimated at around 2.4. (Wesphal & Kim, 1977, p5-11.)

worth stressing, for given the circumstances at that time, it is difficult to imagine that Korea's rapid growth would have been possible, had Korea continued to follow a policy of import-substitution without an articulate strategy for industrialization. Thus, the Korean case appears to largely contradict the conventional myth with which it is associated: a success story of a free market-oriented development strategy.

In fact the evidence indeed indicates 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 has proved adaptable to the shifting comparative advantages in international markets. Vertically integrating the production structure has also lessened the economy's dependence on imports.

Account must 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 among 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 process had stemmed from the government policy of promoting 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, conscious policy measures that contributed to a dynamic sequencing in industrial development for comparative advantage. On the other hand, it is important to note that an excessively strong role of government, as was the case with the Korean government since the initial phase of industrial development, leads to imbalances and structural distortions in the economy that eventually need to be corrected in subsequent planning.

It is difficult to draw conclusions concerning the precise role of industrial policy in the Korean development. Evidently, Korea's early economic successes are attributable to a number of special factors already referred to. Also, Korea's increasingly important private sector assuredly played a vital role as well. But to attribute Korea's success to the free market system is an unhelpful simplification of the Korean experience. Ultimately, it was the government that was willing to give the private sector incentives to assume entrepreneurial risks, thereby igniting the

dynamism of the private sector and putting Korea on the fast growth track. Thus, there is 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 for Korea's success.

APPENDIX: THE RELEVANCE OF THE KOREAN EXPERIENCE TO MEXICO.

This section discusses whether and in what respects the lessons of the Korean experience can be transferred to developing countries such as Mexico, which like Korea is in the intermediate stage of industrialization, albeit in a very different politico-cultural environment. Although there is recognition that Korea's success can be attributed to several special factors already mentioned, there is less appreciation of the importance of sensible policy measures. Thus, the lessons on industrial policy to 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 textiles) have suffered from the slackening world demand and the challenge of lower wage countries. Thus there is an urgent need for the restructuring of industry by increasing production of such sectors as mechanical and petrochemical industries. The Mexican economy depends heavily 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 percent, as compared 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.⁵⁵

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

There are in general more dissimilarities than similarities between the two countries in aspects other than the economy. Dissimilarities 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, and have been influenced by a common Sino-cultural heritage, Mexico is a geographically and socially diverse nation with regional differences in culture and tradition as well as in the endowment of natural and human resources. Politically, Korea has had strong governments motivated and able 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 accommodate 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 administration, which has effectively limited the possibility of any long-range planning for industrial restructuring.

Despite the dissimilarities, the implications that can be drawn from the Korean experience, however, seem enormous from the perspective of policy issues. While it is true that replication of policies as implemented in Korea could not ensure a success elsewhere, certain aspects of the Korean experience provide useful lessons for other industrializing countries such as Mexico:

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 fully appreciated by policy-makers. Once a development

⁵⁵ United Nations Statistical Office.

project is approved, government support is continuous and consistent from the beginning of its support until its withdrawal. There have been constant evaluations of industrial performance and industrial dynamics, which have been built into the process of government mobilization of support and assistance.

In contrast, the Mexican experience in recent years demonstrates the need for policy coherency that can be achieved by more effective integration of the interests of diverse political groups and by more efficient coordination of various administrative mechanisms.⁵⁶ 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, more effective implementation of the reform concepts as well as a more disciplined approach towards reducing 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 the encouragement of savings. Even such tactics as selective credit allocation for supporting 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. Thus, in selecting the policy instruments, there has often been little consideration given to efficiency of investment or structural distortions in the economy. It is important that, given the difficulties of using the shadow prices or the benefit-cost analysis to investment allocation, sectoral priorities must at least be set 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 such a way 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 experience of planning provides a useful lesson.

⁵⁶ For example, the 1976 measures to liberalize imports to reduce inflationary 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.

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

The Mexican capital goods sector has been 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 a type of incentive scheme similar to that 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 against 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 policy makers.

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 could not be expected that a much greater proportion of the cost of education should suddenly be 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 contribute to acceleration of economic growth in the long run, but also bring 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 sizeable 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 revenue is indispensable to the process of economic growth in developing countries, and there is a clear need to promote exports for Mexico, albeit on a selected industry basis, and to avoid many of the pitfalls customarily associated with excessive controls of trade.

At the same time, the efficacy of import-substitution policies needs to 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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