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93

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ECONOMIC DEVELOPMENT IN SOUTH KOREA

by

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I. INTRODUCTION

South Korea is one of the four East Asian "miracle economies" (the others are Taiwan, Singapore and Hong Kong) whose speed and quality of economic development distinguishes the group from the rest of the developing world.[1] Korea's gross national product increased at an average rate of almost ten percent from the mid-1960s to 1973 and, despite oil shocks and worldwide economic recession, rose by more than seven percent a year during the 1973-82 period. ("Korea" and "Korean" are substited for "South Korea" and "South Korean" when possible in what follows.) One result of this rapid growth or development (the terms are used synonymously here) is that the average person's income tripled in two decades so that the typical Korean is now much better off than he was twenty years ago. Standard welfare surrogates for food and housing consumption, access to medical services, and so forth, all confirm the increase in individual economic well-being during the period. Also, the averages do not conceal wide disparities as is often the case. Income inequality has increased somewhat since the mid-1960s, but it is still low by international standards. Though Korea's "miracle" status is not unique since it is shared with three other East Asian economies, it is nonetheless particularly impressive because Korea is much larger than the others, and consequently has had to overcome larger problems, and because the others were not devastated by war as was Korea during the Korean War.

Rapid output growth, relatively even distribution, and widespread welfare gains are perhaps the main characteristics of Korea's recent development, but there are others also worth mentioning. In particular, development has altered the country's industrial structure and, with it, people's working lives. Growth has centered in the industrial sector, especially manufacturing for export, and since manufacturing has been concentrated in urban areas, not only to benefit from agglomeration, but also to make use of access to ports and to the government, new employment has also been concentrated in the cities. What was mainly a rural and agrarian economy only two decades ago, is therefore now a predominately urban and industrial economy. The speed of the transformation is noteworthy because the same changes in structure (and urbanization) took place over much longer periods when they occurred in today's developed countries. The rapidity of Korea's growth has probably contributed to crowding, to pollution, and to inefficiency (this last since supply is less elastic in the short run than in the long run). Even if slower growth would not have reduced the disecomomies or negative by products of development, it might have lessened their impact. On the other hand, the rapidity of Korea's growth has created an expansionary psychology, inspired business confidence, and induced receptivity to change. Without these, the alternative to rapid growth might not have been moderate growth, but possibly little or no growth.

Though the welfare consequences of Korea's rapid development are necessarily a matter for speculation, the dimensions of this development are well documented. In particular, we know that development was slow and unsatisfactory from the end of the Korean War until the mid-1960s, when growth accelerated. It has remained unusually rapid during most of the period since then. This acceleration raises the question of why development was slow before the mid-1960s and fast afterward. Possible reasons for the acceleration are examined in Part II, entitled "The Record". This examination suggests that while policy changes were needed for more rapid growth, acceleration could not have occured without favorable external conditions and the previous accumulation of (unexploited) productive potential.

Reasons for acceleration are significant because they account for Korea's economic success. Success, in turn, has aroused interest elsewhere in Korea as a development model. However, it is not at all clear that Korea's experience is transferable, and quite possible that the model may prove misleading. One reason for skepticism is that economic results have social, cultural, political and institutional as well as economic causes. Some of Korea's non-economic attributes, such as the Confucian tradition, may be found elsewhere (most notably among the other East Asian miracle economies), but many are not. This does not necessarily mean that Korea's success is sui generis, but that the Korean model may be more or less applicable according to local circumstances and the particular characteristics being considered.[2] For instance, two characteristics that appear to be especially significant in Korea's development are examined in subsequent sections. One of these is the active role played by the government in economic affairs. Since the government's activism has cultural and political as well as economic causes, this is one instance where the Korean model is not generally applicable. The second significant characteristic discussed here is the government's heavy emphasis on export expansion. This is an aspect of the Korean model which should be applicable elsewhere.

Though the public sector's share of economic activity is masked in Korea by accounting difficulties, it is probably not very different from public-sector shares in other developing countries. It is therefore not so much the size of government output or expenditure as the government's influence on the private sector which makes the economic role of government significant. Neither the Park nor the Chun governments have hesitated to intervene in markets or to guide the invisible hand as policy has dictated. Possible reasons for activism are assessed and several features of the policy-implementation process--planning and credit allocation--are discussed in Part III, "The Government and the Economy". Korea's export expansion strategy is examined in Part IV. Reasons for choosing this strategy alternative and the economic effects of expansion are examined in this section. Recent changes and possible future developments in the economic roles of government and of exports are considered in Part V, the concluding section.

II. THE RECORD

Though Korea has a long and distinguished history, South Korea's development experience dates back only to 1948. Even in the relatively short period since then, development was interrupted by the Korean War (1950-53). Development can of course be traced to earlier years as a colony in the Japanese Empire (1905-45) or to the Yi Dynasty (1392-1905), but in the first instance Korea was an economic and political satellite, not an independent country, and in both cases South Korea was only part of a unified Korea. These differences in circumstances, I believe, make comparison of South Korea's experience before 1948 with what followed of questionable value in explaining subsequent development, particurlarly as the South Koreans were unable to control their own economic and political fate.[3] This was also true of the years 1945-48 when, though occupying the same territory as South Korea now does, the southern part of the Korean peninsula was ruled by an American military government. Only with the establishment of the Republic of Korea under President Syngman Rhee in 1948 did South Korea (hereafter simply "Korea") acquire the independence needed to control its own development experience.

Political independence may cloak economic and military (strategic) dependence, and this was true of Korea before the mid-1960s. The modest economic progress achieved after 1945 with the help of US emergency relief and economic assistance was wiped out in the Korean War while the war itself confirmed US responsibility to assist Korean reconstruction and subsequent development. Korea was clearly an American client state during the reconstruction era (reconstruction was pretty much complete by 1958) and as late as the mid-1960s when assistance was still sufficiently large to permit American aid officials to influence Korea's economic policies, most notably the decision to adopt a liberalization program that would free the ecomomy of restrictions, or what has been termed "the second postwar restructuring".[4] Since the mid-1960s, however, grants have been replaced by loans, surplus agricultural (PL 480) commodity shipments phased out, and total ecomomic assistance greatly reduced.[5] Military assistance has dropped too, particurlarly since the establishment of a domestic armaments industry. The decline in assistance, combined with Korea's own economic successes means that Korea is no longer the American client state that it once was.[6]

The consistent statistics needed to explain Korea's economic growth or development are available only for the period since 1953. They show quite unimpressive performance from the end of the Korean War through the student uprising in 1960 which unseated the Rhee regime, the short-lived successor government of Chang Myon, the military coup led by Park Chung-hee, and the ill-considered currency reform adopted in 1962 by the new military government under General Park. GNP rose at an average annual rate of 3.7 percent. From 1962 to 1973, however, GNP increased at an annual rate of 9.6 percent and has continued to grow only somewhat less rapidly since then (7.1 percent a year from 1973 to 1982) despite the oil shocks of the 1970s and the domestic political turmoil of the early 1980s.[7]

Basic indicators of Korea's economic development and those for Korea's World Bank reference group of 61 middle-income countries are given in Table 1. These indicators and the acceleration in the pace of Korea's development raise questions of why development was so slow before the mid-1960s, and of what happened to raise the pace so that growth has been unusually rapid since then, either when compared with Korea's earlier experience or the contemporary experience of other middle income countries.

There are a number of possible reasons why development was slow from 1953 to 1963. One was the prior division of the peninsula, which separated two complementary parts of a single economy, with rice production and light industry in the south, heavy industry, electric power generation, and wheat in the north. This was in addition to the breakup of the Japanese Empire where Korea's specialized role no longer existed. (Korea supplied rice to Japan, for example, and imported finished consumer goods.) Also, there were immediate problems on liberation, including a shortage of high level manpower since administrators and professionals had been Japanese, hyperinflation as the Japanese montized their assets on departure, and a misoriented transport system. Coal was plentiful in the northeast, for example, but there were no rail connections to bring it to Seoul. The process of transforming a fragmented economy into a functioning whole and of rebuilding after the Korean War was necessarily time consuming.

Another reason for slow growth was the Rhee government's preoccupation with political problems at the expense of the country's economic needs. There was no overall economic strategy, possibly because such a strategy would be inconsistent with the political goal of reuniting the two Koreas.

Table 1

Basic Economic Indicators for Korea, and for an Averate of 61 Middle Income Countries, 1960 and 1980

	Korea		Middle Income Countries	
Per Capita GNP ($US), 1980	1,520		1,400	
GDP Growth Rate (Annual Average)				
1960-1970	8.6		5.9	
1970-1980	9.5		5.6	
	1960	1980	1960	1980
Distribution of GDP (%)				
Agriculture	37	16	24	15
Industry	20	41	30	40
Services	43	43	46	45
Expenditure of GDP (%)				
Public Consumption	15	13	11	14
Private Consumption	84	64	70	64
Gross Domestic Investment	11	31	20	27
Gross Domestic Saving	1	23	19	25
Exports*	3	37	16	25
Resource Balance**	-10	-8	-1	-2

* Goods plus non-factor services.

** Difference between exports and imports of goods and non-factor services.

Source: World Bank, **World Development Report, 1982** (New York: Oxford University Press, 1982), Indicator Tables 1, 2, 3, and 5.

Also, the economy was hampered by inflation, the overvalued exchange rates used to maximize American aid receipts, heavy trade deficits, unrealistically low bank interest rates, and inadequate tax collection. In short, Korea displayed all the characteristics of inept policy and weak implementation found in many developing countries. In addition, exports lagged while emphasis on import substition created the usual web of controls that perverted entrepreneurial incentives by making avoidance of controls rather than increased productivity the main source of profit. Furthermore, substitution was becoming increasingly difficult as the opportunities were exhausted for the sort of easy substitution that suited domestic factor proportions (abundant labor, scarce capital) and employed simple technology. It is hardly surprising that growth slowed during the mid-1950s and then came to halt in 1959-62 when political upheaval and the new military government's initial fumbling upset everyday economic activities.

Development accelerated during the mid-1960s and the economy expanded very rapidly during most of the period until 1979. One reason was a policy shift under the new Park government (Park was elected president in 1963) from emphasis on import substitution to promotion of exports. This shift was probably as much a result of the evident failure of import substition and widespread public demand for better economic performance as it was due to pressure from U.S. advisors and the imminent decline in American assistance. Whatever the reason, the new strategy included a series of liberalization measures during the mid-1960s that encouraged entrepreneurs to expand output for export. The result was a spectacular increase in exports from $ U.S. 100 million in 1964 to a billion in 1971 and 21 billion by 1981. Rapid industrialization followed since these exports have included an increasingly varied range of manufacturers. Table 1 documents this process during the 1960-80 period. It shows that Korea's industrial and export shares both rose from less than to more than the middle-income country average. It shows, in short, that Korea is a good example of what is meant by "export-led" growth.

The shift in strategy may have been a necessary condition for acceleration in the pace of development, but it was not sufficient. Korea's exports soared since the mid-1960s because world markets were expanding rapidly, particularly those in the United States and Japan, Korea's main trading partners. On the supply side, Korea, the epitome of a labor-surplus economy, had unexploited comparative advantage in its hard working and relatively well-educated workers. There was also an ample stock of entrepreneurial talent, no significant opposition to the new export strategy, and a regime in power with sufficient control of the bureaucratic process to implement its economic policies. A number of these elements such as the well-educated labor force or absence of opposition can be traced to land reform or generalization of education that predate the strategy shift by many years. The new strategy was therefore only one of many elements responsible for the acceleration of the mid-1960s.

While rapid development through 1973 can be explained by exploitation of favorable export opportunities, this does not explain the rapid development after 1973 when the first oil shock and subsequent worldwide inflation and contraction limited export opportunities. Development after 1973 was rapid because the Koreans employed a risky strategy to maintain growth. Instead of adopting restrictive policies to offset the inflationary impact of the oil shock, as did most countries, the government increased foreign borrowing, used the proceeds to expand industrial capacity, and the new industrial capacity to generate more exports.[8] This strategy might have succeeded if it had not been combined with an obsessive drive to expand the heavy and chemical industries. This drive contributed to inflation and the inflation, when combined with the second oil shock, the political unrest following President Park's assassination, and a disastrous harvest, led in 1980 to the first downturn in Korea's GNP growth since 1956.[9] Inflation has been curbed since then by the new government of General (now President) Chun Doo-hwan, but the economy has suffered from excess capacity and underemployment and GNP growth in 1981-82 has been, by Korean standards, a modest 5-6 percent a year.

III. THE GOVERNMENT AND THE ECONOMY[10]

The influence of the political leadership ("regime", here) on Korea's or any other country's economic development should depend on the size of the public sector, the capacity of the regime to implement policy, the priority attached to economic goals, the ease or difficulty of governing, and so forth. These are all difficult to specify and depend, in turn, on such disparate factors as Korea's geopolitical position and the Confucian ethic as well as on the regime's characteristics and economic institutions which, in Korea's case, are mainly the market mechanism and private property rights rather than central planning and state ownership. Economic response to regime stimulus is likely to differ among countries or between regimes in the same country because of these intervening factors. We know, for example, that a change in required reserves alters the money supply and eventually affects prices. We know little about the size and speed of response, however, because these depend among other things upon how the bureaucracy responds to political directives. It is hardly surprising, therefore, given the complexity of relationships and the obvious influence of institutional and cultural factors, that economists treat "government" as exogenous and that neither economist nor political scientists have a paradigm that can satisfactorily explain how the regime or government influences economic development.

One factor that ought to determine the impact of government actions on the economy is the relative size of the public sector, on the grounds that the larger a public sector's share of the economic activity the more ways the regime can affect the economy.[11] Possible measures of the size or relative importance of the public sector include the government's share in total expenditures (budget divided by the GNP), the proportion of gross domestic product that originates in the public sector, or the revenue ratio (government revenues divided by the GNP), the government's share of total claims on resources. In 1980, for instance, the revenue ratio was 22 percent, the government's share of total expenditures (the public consumption shown in Table 1 plus public investment) was 20 percent. There are no meaningful statistics on the proportion of GDP originating in the public sector. Any of these measures is misleading, however, because they understate the size of Korea's public sector. One reason is that accounts of public and quasi-public enterprises such as the tobacco monopoly and the Korea Electric Power Company are included with the private sector not, as is the practice elsewhere, with the public sector. Also, American military assistance to Korea is omitted from government budgets, the national accounts, and balance-of-payments statements. Published <u>won</u> defense expenditure accounted for 30 percent of central government budget outlays in 1980 or 6-7 percent of GNP. U.S. military assistance, though substantial in the past ($7.3 billion from 1953 to 1978) has been equivalent to only 5 percent of budgeted defense expenditures in the last few years.

If it is impossible to calculate the size of Korea's public sector, or compare it with public sectors of other middle income countries, something can be said of the pattern of the government's economic activities and of trends in revenues and expenditures. Infrastructure requirements during early stages of development typically generate heavy government investment, while demand for social expenditures increases government consumption at later stages. Government investment does not decline as a proportion of GNP in Korea, however, while government consumption remained a fairly steady 8-10 percent of GNP since 1953 before rising to 11-12 percent in the early 1980s. Revenues, in turn, typically rise more than proportionally with GNP as an economy develops. Growth of per capita income accounts only for absolute increase; the additional, relative increase is associated with other concomitants of development that increase tax capacity, such as growing monetization and expansion of foreign trade.[12] Korea's experience has been typical as revenue ratios increased from 14-16 percent during the early 1960s to 20-22 percent in 1979-81. The increase can be attributed partly to supply-side factors like monetization and reform of tax administration (since 1964), and partly to demand-side considerations like the high income elasticity of demand for education and other publically-provided services.

Though revenue ratios and public-expenditure shares tend to rise with per capita income, they differ markedly among countries with the same per capita income. This suggests that the government's share in the economy is influenced by political preferences as well as by demand considerations or the governmment's revenue-raising capacity. The increase in expenditures (and therefore revenues) has been limited in Korea both by historical accident and by political preference. The country inherited a swollen bureaucracy and defense establishment at the end of the Korean War which needed little explansion as the economy grew. Also, there has been a continued "production-first" philosophy which, like Japan's, has directed resources to increasing output rather than to social ends. This can be seen in Korea's recent government budgets, in which less than 10 percent of total outlays have been allocated to social-expenditure categories such as social security, welfare, housing, and community services.

What is unexpected in Korea is the large role of public enterprise in an otherwise free-enterprise economy. Jones and Sakong show that in 1972, for instance, public enterprises produced two-thirds of the country's electric, gas, and water supplies, 30 percent of transport and communications services, 15 percent of manufacturing and 30 percent of mining output, and an unusual 80-90 percent of financial services.[13] While many public enterprises originated in Japanese concerns whose ownership was vested in the government after liberation, public-enterprise production is important (9 percent of domestic product in 1972, probably more now) less because of inheritance than because of above-average growth in enterprise output during recent decades. This growth probably reflects increased demand for the sorts of goods and services suited to public production, a cost-efficient enterprise record rather than a history of drain on the public fisc as in many developing countries, and a pragmatic rather than an ideological approach to issues of public versus private ownership.[14]

The Korean government may influence the economy more in other ways than by its fiscal activity or direct production since the private sector accounts for roughly three quarters of national output and expenditure. Whether a government is active in economic affairs or not should depend on the priority accorded to economic goals, the regime's ability to control the bureaucracy, the ease or difficulty of governing the country, and possibly the earlier success achieved by assuming an active role. In each case the situation in Korea permits the government to exert great influence in economic matters, which perhaps explains why both the Park and Chun regimes have played an active, even interventionist role in the economy.

One possible reason for the economic activism of Korean governments is that they have been led since the early 1960s by authoritarian regimes, perhaps best described as military, bureaucratic-authoritarian regimes. They are "bureaucratic" because the military rules more as an institution than through the personal rule of a military strong man, "authoritarian" because obedience to government dictates is required of individuals.[15] There is no reason, however, why authoritarian regimes should be more active in economic affairs than democratic regimes except, perhaps, that without the same need for prior consultation and widespread agreement, they can act faster than their democratic counterparts. Rather, the activism of Korea's authoritarian regimes has probably resulted from their success, not their authoritarianism, because successful action should foster further action, whereas unsuccessful action would not. Another logical possibility, that authoritarian governments are successful because they are authoritarian, is contradicted by evidence that there is no correlation between economic success and type of regime, though countries with "...authoritarian forms of government tend to perform either very well or very poorly."[16]

Beside success as a possible cause of activism, action is promoted by the factors that ease the tasks of government in Korea. One of these is the hierarchic and authoritarian Confucian tradition of family and political relationships. Though the Park and Chun regimes may not have received the Mandate of Heaven, they have had at least the tacit support of the population. Consistent with this tradition has been a history of highly centralized government; regions and localities have never had much autonomy and do not now. Also, population, geography, and economic size are all favorable. Korea's land area (98 thousand square kilometers) is compact, unlike that of Indonesia and the Philippines, while its smaller population (39 million) is easier to administer than the enormous populations of countries like India and China. Market size (population times per capita income, now about $ U.S. 60 billion) is large enough to permit economies of scale. Though it may not be sufficient to support adequately a domestic auto industry, it is large enough to permit a much wider range of specialization than can be attained in small markets like Singapore's or Hong Kong's. Also, the population is unusually homogeneous. There are therefore no linguistic or ethnic minorities with separatist tendencies or demands for special treatment. Furthermore, the threat of attack from the north has had a powerful unifying effect. While this threat is sometimes used by the regime in a cynical fashion to stifle dissent, it also provides a sense of national economic purpose since economic strength is seen as a defense prerequisite. Finally, little evidence exists to indicate the social malaise associated with wide income disparities and multi-generational poverty. In fact, inequality of income distribution is unusually low and there seems to be a fairly high degree of social and economic mobility.[17]

Another reason for the government's active role in the economy, besides success with activism and the ease of governing, has been effective administration. It is effective because the state apparatus can be used to transmit and enforce the regime's policy directives either by compulsion or by administrative discretion. Myrdal has characterized the "soft states" of South Asia as ones where "...policies decided on are often not enforced" and where "the authorities...are reluctant to place obligations on people."[18] A "hard state," though not defined by Myrdal, can be specified by contrast. It is one that is ready to place obligations on people and to enforce them if necessary. Korea is definitely a "hard state" in that the regime has been effective in obtaining compliance with government directives, either by direct command or by discretionary controls. The efficacy of direct command under an authoritarian regime is self-evident, but the success of discretionary controls deserves mention. Such controls work well in Korea because the leadership's commitment to economic development is passed down through the hierarchal command structure to the lowest administrative levels so that no official can afford to act in ways that obstruct development.[19] Both types of control are widely used in Korea because the government has not hesitated to intervene in the economy, and because the approach to policy implementation has been highly pragmatic. If one type of intervention proves ineffective, another is tried.

A final reason for the government's economic activism has been the high priority attached to economic goals. Insofar as media coverage reflects public priorities, then the unusual emphasis by the media on economic matters can be taken as evidence in point. The overall economic goal, typically the improvement of living standards for the population (i.e., mass welfare), is only one of several major regime goals in most countries, and Korea is no exception. Other possible goals such as the preservation of political power or the maintainence of national security are important too and may shape economic policies. These three are probably the major goals in Korea and are competitive as well as complementary, which explains why policies to achieve self-sufficiency in food production or to foster heavy industry may appear irrational to economists but make perfect sense to policy makers.[20] Since the early 1960s, the economic goal has perhaps been emphasized more in Korea than in most other developing countries because the economic failures of the Rhee government made economic improvment the overriding national objective and because good economic performance has been the main means of achieving legitimacy for new military regimes.

Evidence is plentiful that the Park and Chun regimes have played active roles in economic affairs. For example, the list of items eligible for import, the terms of export financing, and tax-rate maxima are often changed. Besides the usual repertoire of monetary, fiscal, and commercial policy instruments, Korean governments have used other means to achieve economic ends, including direct market intervention. After the second oil shock and disastrous harvest of 1980, for instance, the Chun regime used wage and price controls to curb inflation; both the Park and Chun regimes have employed a "two-price" policy to increase farmers' incomes and reduce urban rice costs. Of particular interest, however, are planning and credit allocation. Planning, perhaps the leading symbol of government intervention, is of interest because the function of planning is controversial in Korea. Credit allocation, in turn, is noteworthy because it is the major single instrument of government control.

The possible relation of planning to Korea's economic success has inspired a literature that, at one extreme, comes close to attributing accelerated growth to planning and, at the other, to viewing the plans mainly as a means for improving market functions. The plans themselves, which date back to the Rhee regime, have not always been adopted and vary widely according to the econometric sophistication with which they are constructed. Planning is probably more prescriptive than in Japan, for example, because the government tends to intervene more in the economy than Japan's, and because it has more power to allocate credit. Still, there is a large, market-oriented private sector that is not bound by the plans. Also, since actual growth has typically been well above plan targets the plan itself, despite annual adjustments, tends to become increasingly irrelevant with time. In addition, the plans do not specify the means or policies that will be needed to reach plan targets, and it is evident that some targets are included without providing the means to achieve them, possibly because the planners must cater to political as well as economic imperatives.[21] Given such limitations, it is possible to adopt a minimalist position in assessing the function of Korea's plans. They serve to sustain market functions by reducing risk and uncertainty, minimizing information costs, and generating an expansionary psychology.[22] If plans do more than this, that is, if they have a role independent of improving market functions, then it may be to establish priorities and to insure that public-sector activities are feasible and coordinated. To assert, however, that "...public sector policies derived from the planning function were indispensable to the economic growth of the last 10-15 years before 1977 ..." is to overstate the case.[23] Since other developing countries have employed planning without achieving Korea's economic success, what may be significant in Korea is not planning itself but the combination of planning and sophisticated policy implementation.[24]

Credit allocation and control of access to foreign exchange are perhaps the main means of achieving the government's economic goals in Korea. The typical enterprise is highly leveraged and therefore especially vulnerable to reduction or withdrawal of credit. Loanable funds are scarce and lending rates are limited by statute so that the organized money market (i.e., the banking system) cannot fully satisfy credit requirements. The government directs and supervises special purpose banks, such as the Korea Exchange Bank or the National Agricultural Cooperatives Federation, and controls commercial banks both through the Monetary Board, which supervises commercial bank activities, and, until recently, through stock ownership since it was the major shareholder in four of the five nationwide commercial banks. Access to foreign credit is also controlled because foreign loans are guaranteed by the Exchange Bank. The unorganized money market (curb market) is the one credit source not controlled by the government.[25] Excess demand for credit can usually be satisfied in the curb market, but only at a cost of roughly three to six times going rates at banks. Since the government probably controls three-quarters to four-fifths of the supply and excess demand requires rationing, it is not surprising that credit is allocated in ways that are consistent with the government's economic goals to firms that promise to perform satisfactorily.[26] In recent years allocation has favored export activity, heavy and chemical industry projects, and the chaebol, or large conglomerate enterprises.

IV. EXPORTS: KEY TO KOREA'S HIGH-GROWTH STRATEGY

Export expansion has been the main theme of Korean economic policy since the mid-1960s. A wide range of incentives, particularly preferential loans, has been used to promote exports and, as indicated earlier, exports have responded by growing phenomenally.[27] The immediate reasons for new emphasis on exports were mainly negative, in that earlier import-substitution policies had failed and could not be continued, while exports would provide the foreign exchange needed to offset the expected decline in foreign assistance. There are also conventional economic reasons for export promotion, if only to offset the distortions created by foreign-exchange controls and the tariffs used to protect import-substitute industries. Positive reasons are provided by standard comparative-advantage arguments (in Korea's case, advantage in labor-intensive, and possibly skill-intensive products) and the argument that competition in world markets makes output for export necessarily efficient. More recently, though, it has become apparent that export expansion is also the key to Korea's high-growth strategy. Growth is maximized by allocating a very large proportion of total expenditure to investment, and Korea's investment ratios (investment divided by the GNP) of 25-35 percent in recent years have been among the world's highest. The investment is partly financed by foreign borrowing, which not only provides foreign exchange to pay for the imported equipment and other foreign goods and services needed for investment purposes, but also makes up for insufficient domestic saving. Foreign borrowing (saving) has, in fact, financed about a third of investments in recent years. Exports are important because they generate the foreign exchange needed to repay loans from foreign lenders. Continued export expansion is also important because it encourages foreign lenders to extend loans to Korean firms since expansion promises to generate the foreign exchange that will be needed to repay debts (of around $37 billion at the end of 1982) when they become due.

The three strategy alternatives which might, conceivably, have been adopted by the new Park government in the early 1960s included: the continuation of earlier import-substitution policies; the expansion of agricultural production for export; or the orientation of manufacturing from output for the domestic market to output for export. Import substitution typically follows a logical pattern in which the first or easy phase is devoted mainly to types of output for which there is an established market (i.e., consumer goods) and that can be produced using simple, labor-intensive technology. Textiles, apparel, footwear, and processed foods are typical first-phase import substitutes. Korea had already entered the second phase of substitution by the early 1960s, however, a phase in which substitution shifts to intermediate goods or materials such as cement and rubber products that are produced by more complex, capital-intensive technology, usually in large plants to benefit from economies of scale. Since these products were not well suited to existing factor endowments while domestic markets were too small to permit scale economies, production of second-phase products proved inefficient and the economy suffered from overcapacity and a decline in the rate of output growth. Continued emphasis on import substitution clearly offered little promise for renewing growth, and neither did agricultural exports. Though Korea had been a major source of rice for Japan during the colonial era, this market was now cut off. Also, high-value rice exports had been offset by low-value millet and barley imports (hence the term "starvation exports") while the pontential for expanding agricultural output, given Korea's limited supply of arable land, was distinctly limited. This left export of labor-intensive manufactures, many of which were already being produced domestically, as the only feasible alternative. To do this, however, required export-promotion measures, devaluation and the other elements of a liberalization program that would encourage entrepreneurs to produce for export rather than substitute for imports. This was all accomplished, with American backing, in the mid-1960s.[28]

An ample labor supply was not in itself sufficient to establish Korea's comparative advantage in labor-intensive manufactures. Labor had to be available, which it was since there was a surplus of under-employed workers who could be transferred to the new industries (without significant loss of output) from agriculture and the services.[29] Labor had to be cheap, which it was because there were no effective unions or other barriers to low wages, such as the high-cost of wage goods. Labor also had to be productive since competitiveness depends on unit labor costs, a function of both wages and productivity. Productivity was fairly high because Korean entrepreneurs are adept at organizing production while workers are relatively well educated, skilled, and hard working. Finally, the so-called "strong-factor" hypothesis had to hold, so that what was produced by labor-intensive methods in Korea could not be undersold by employing capital-intensive methods elsewhere. Cross-national comparisons show that this hypothesis is, in fact, correct, and that what is produced by labor-intensive means in one country is produced by the same means elsewhere.[30] The hypothesis, incidentally, only requires similar ordering of industries by factor intensity; all production can be more labor intensive in Korea than in capital-abundant economies like the United States. Figures for Korea's exports in 1972 and in 1981 are given in Table 2 and grouped according to whether they are products of L-industry (labor-intensive industry) or H-industry (capital-intensive industry) groups. Table 2 shows, not suprisingly, that Korea's export mix, particurlarly in earlier years, has been consistent with comparative advantage in labor-intensive manufactures.[31]

Table 2

Korea's Changing Export Structure and Factor-Endowment Categories

	1972		1981	
	$ million	%	$ million	%
L-industries[1]	645	40	7,681	36
H-industries[2]	180	11	5,057	24
All Commodities[3]	1,624	100	21,254	100

Note: L-industries or labor-intensive industries are those with particularly low value added per worker, whereas H-industries or capital-intensive industries (both human and physical capital) are those with especially high value-added per worker.

1. Includes textiles (SITC 65), travel goods (83), clothing (84) and footwear (85)

2. Includes machinery and transport equipment (SITC 7) and instruments (86)

3. Also includes exports of intermediate industries, or those which are neither very labor intensive or capital intensive.

The main economic advantage of concentration in labor-intensive exports for a country like Korea is that products of cheap, abundant labor can be exchanged for capital or natural-resource intensive products that are either expensive or impossible to produce locally. Evidence for this can be found in data for the 1960s which show that Korea's imports were much more capital-intensive than its exports.[32] Another advantage is that export expansion provides productive employment for labor that would otherwise be underemployed. (Underemployment, not unemployment, is the most likely alternative to employment where, as in Korea, tightly-knit families absorb the otherwise unemployed in family business and self-employment rather than work for wages predominates.) Several studies indicate that export expansion made a major contribution to employment during the 1960s, both in the export industries themselves, and indirectly in the industries which supply export producers.[33] Also, the growing importance of exports in Korea's output mix has undoubtedly increased overall economic efficiency. Exporters face worldwide competition and cannot hide behind tariff barriers as can producers for the domestic market. Subsidies provided by export-promotion measures, furthermore, have been too low to protect inefficient producers. Finally, exposure to new markets and the need to keep up with new technology should have diversified the economy's output and increased produced capacity more than if production was mainly devoted to supplying domestic markets.

Products which Korea exports are usually products that are already being produced for domestic markets. Though there are notable exceptions, such as the offshore assembly of electronic components for American firms, previous production experience is typically needed to reduce costs and raise quality. In the same way, production for domestic markets often substitutes for earlier imports. In fact, Akamatsu found that the sequence beginning with imports, then import substitution to supply domestic markets, and finally output for export described Japan's industrial development.[34] The same sequence, Akamatsu's "Wild-Flying Geese" pattern of growth, also fits much of Korea's industrial growth. When import substitution becomes sufficiently competitive to generate exports, as in Akamatsu's sequence, the import substitution and export promotion strategies are not necessarily competitive. What Korea exports is explained, at least in part, by prior import substitution. Exports are also determined by changes in comparative advantage, both in Korea and elsewhere.

Heavy investment in education and in plant and equipment since the mid-1960s had substantially expanded Korea's capital stock by the early 1980s.[35] This expansion, marked by the growing importance of physical and human capital in Korea's factor endowments, was one reason for the shift away from L-intensive toward H-intensive exports shown in Table 2. Another reason is that just as exports of labor-intensive products like plywood, textiles, and apparel from Korea, Taiwan, and other low-wage, newly-industrialized countries reduced Japan's world-market share of labor-intensive manufactures, growing competition from China, the Philippines, and other even lower-wage countries has had the same effect on Korea's more labor-intensive exports in recent years. The Park regime's push to develop the heavy and chemical industries during the middle and late 1970s may have been partly designed to expand Korea's military capabilities, but it was also a response to this increase in competition from below. More recently the Chun regime's industrial policy has focused on expanding electronics, machinery and other skill-intensive, high value-added types of production. Policy in both instances continues the shift in export composition from L-intensive to H-intensive products, and in each case the policy has been consistent with changes in Korea's comparative advantage.

Demand considerations, price changes, and financial developments have affected Korea's high-growth strategy as well as the supply factors that determine comparative advantage. The won exchange rate has been tied to the U.S. dollar, for example, so that Korean exports have suffered from won overvaluation in recent years despite a series of modest devaluations to raise the won/dollar rate. While more substantial devaluation would aid export competitiveness, it would also contribute to inflation (via higher import prices) and increase the burden of servicing dollar-denominated foreign debt. This debt places Korea among the top four developing-country international borrowers but the debt-service ratio (interest plus amortization divided by the current-account receipts), now around 15 percent, is not considered dangerously high. Korea's debt jumped with widening balance-of-payments deficits after each oil shock and Korea, along with other oil-importing countries, has suffered from deterioration in the terms of trade as oil prices escalated while export prices did not. Perhaps more significant than adverse plrice movements, however, has been the impact of restrictive policy measures adopted elsewhere to restrain the inflation ignited by oil shocks. Such measures contributed to worldwide recession in the early 1980s and to rising protectionism as well, both of which have reduced demand for Korea's exports.

V. RECENT, CURRENT, AND FUTURE DEVELOPMENTS

Korea's export growth centered on textiles, apparel, and other labor-intensive manufactures before capacity was developed in the late 1970s to produce more capital-intensive products. Exports, particurlarly of labor-intensive products, have been restricted by tariffs, quotas, and by other protectionist devices used in advanced industrial economies, particurlarly the Multi-Fibre Arrangement (MFA) quotas on textiles employed during the past decade and the "orderly-marketing" arrangement limiting footwear imports to the United States. These restraints, along with increased competition from lower-wage competitors and changes in Korea's own factor endowments, encouraged the government to expand the heavy and chemical industries in the 1970s and are now a factor behind recent efforts to promote the development of more skill-intensive products. Current industrial policy, designed to exploit Korea's growing comparative advantage in human-capital intensive production, is to be implemented by investment in a set of national research projects (to develop semi-conductor, bioengineering, and other technologies), liberalization of technology imports, establishment of industry research institutes, and upgrading of technology in small and medium enterprises. Intra-industry rather than inter-industry specialization will be encouraged to avoid protectionist barriers to skill-intensive exports.

New policies and the sort of restructuring they require reveal weaknesses in Korea's industrial structure and problems that will have to be met in shifting to more skill-intensive exports. One weakness, for instance, is the increasing concentration of industrial output in a small set of chaebol or giant conglomerates that dominate export activity. Concentration has been encouraged by allocation of preferential loans to firms whose previous records promise good performance, namely the chaebol. Small credit-starved firms, in consequence, have been unable to purchase equipment embodying new technology and have therefore been confined mainly to the local market because they cannot compete in world markets. Measures to support small enterprises and to establish industry research institutes should help to arrest, if not reverse, growing concentration. The major problem facing current industrial policy is not concentration, however, but is a problem that is inherent in the production and transfer of new technology. Since new technology is developed in only a few advanced industrial countries, it has to be imported either by non-market means (education and training) or by licensing, royalty payments, joint ventures, turnkey plants, foreign investment, and other market arrangements. These arrangements typically do not provide state-of-the-art technology and often prohibit export by purchasers. Purchases are thus restricted by proprietary rights and expensive because markets are dominated by monopolistic or oligopolistic sellers, and because the purchasing process entails high information costs for buyers. Producers of new (for Korea) skill-intensive products must therefore overcome comparative disadvantages before output is exportable, and output is likely to be confined to mid-life cycle products for which comparative advantage has already been established elsewhere.

The government's new industrial policies may alter output structure and comparative advantage, but Korea's high-growth strategy still requires rapid export expansion. Export growth has been greatly diminished, however, by the recent worldwide recession. When world trade registered zero growth in 1982, for instance, Korea's exports grew by only 5 percent in real terms as unit prices fell by 2.5 percent. Since export production accounts for 30 percent of total production, overall economic growth has been well below average during the past several years. This slowdown has raised doubts in Korea about the feasibility of a strategy tied to continued export expansion and has renewed interest in more traditional import-substition policies. The slowdown has also reawakened a much wider controversy involving the "liberalizers" who favor greater reliance on the market mechanism, and the "traditionalists" who are reluctant to drop the controls that have been associated with past economic reluctant success. Since export expansion is associated with more liberal views, the future of Korea's high-growth strategy is tied to the outcome of the liberalizer-traditionalist controversy as well as to world economic recovery.

The main arena for the liberalizer-traditionalist controversy is not trade strategy, however, but the proper role of the government in economic affairs. The source of current differences was a series of crises during the early 1970s, particularly the one-third reduction by the Nixon administration of U.S. troop levels in Korea, growing protectionism after the breakdown of the fixed exchange-rate system, and import inflation with the commodity boom of 1972-73 and the first oil shock in 1973-74. The government met these crises by accelerating development of heavy industry with military potential, diversifying trade (especially by encouraging construction activity in the Middle East), and by increasing domestic food-grains production. These moves signalled a retreat from earlier more liberal or outward-looking policies, and served either to increase import substition or, in the case of trade diversification, to generate skill shortages and wage inflation. Inflation was compounded by overexpansion of the money supply to finance heavy industry and by consumer-goods shortages as investment in light industry was restriced to favor heavy industry. Inflation was met with price controls rather than by devaluation and import liberalization so that an overvalued won and rising wage costs limited export competitiveness. While the structural causes of rising inflation were recognized in an essentially liberal stabilization program adopted in early 1979, this program was overwhelmed by the second oil shock, the assassination of President Park, and subsequent political upheaval. It was not until 1981-82 that the stabilization program was reinstituted and some of the more market oriented policies of the liberlizers adopted. Since then, evidence has been accumulating of a general swing toward liberal views and, possibly, of a fundamental reorientation in economic strategy.

When the Economic Planning Board (EPB) released the final version of Korea's Fifth Five-Year Plan (1982-86) in August 1981, an EPB plan summary (undated) noted that the "major strategy adopted...is to change the overall management of the economy from one that makes extensive use of government controls to one which relies heavily on the operation of the market mechanism". President Chun later announced in his January 1982 state-of-the-nation address that "institutional reforms will be continued to strengthen the functioning of the market mechanism." Since then, the government has sold its equity in commercial banks, is removing import restrictions, and is planning to abolish technology import licenses, end limitations on foreign investors' equity in Korean firms, and phase out high agricultural price supports. This is all evidence that the Chun regime may be adopting a new, more market-oriented strategy or, to use earlier terminology, evidence that Korea may be in the early stages of a third restructuring.

There are a number of plausible reasons for restructuring, including the new regime's desire to establish its own economic strategy, attribution of inflation and structural problems after the investment boom of 1977-78 to "... excessive government intervention in the private sector... since resource allocation was not...guided by the market mechanism but, rather, subject to priorities established by the government," and the growing complexity of the economy that makes it more difficult to allocate resources efficiently through highly centralized decision making.[36] Whatever the reasons, what is significant is the possibility that the Chun regime well employ a less activist economic strategy than its predecessor. What is also significant is the slowness and hesistance involved in reducing government intervention and increasing reliance on the market mechanism. The liberalizer-traditionalist controversy has clearly not yet been settled in favor of the liberalizers, nor has the present regime abdicated in favor of Adam Smith's invisible hand. In the face of present uncertainty, only one conclusion seems justified, and this is that the ebb and flow of the liberalizer-traditionalist controversy should strongly influence the course of Korea's future economic development.

FOOTNOTES

1. The "Four" most successful developing economies (here "miracle economies") or, simply the "Four", was the term used by Little in discussing Taiwan's growth in a comparative context. See Ian M.D. Little, "An Economic Reconnaissance", in Walter Galenson, ed., Economic Growth and Structural Change in Taiwan (Ithaca: Cornell University Press, 1979), pp. 448-49.

2. See David I. Steinberg,"Development Lessons from the Korean Experience-A Review Article, Journal of Asian Studies, Vol. XLII, No. 1 (November 1982), pp. 91-104.

3. The issue of what constitutes worthwhile comparison is raised here because South Korea's development is sometimes analyzed by comparing the economic situation before and after independence. We know that South Korea's agricultural production fell from 1940 to 1953, for example, but cannot explain this simply as a consequence of disruption during World War II and the Korean War because South Korea also lost rice markets with the dissolution of the Japanese Empire and the separation of the peninsula into North and South. The land, the climate, and even the people may be the same, but analysis is confounded because the comparison involves otherwise totally dissimilar units.

4. The first and second restructurings are terms used to denote the economic strategy of import-substituting industrialization adopted by most newly independent nations after World War II (the first restructuring) and the new more market-oriented export promotion strategy initiated by many developing countries during the 1960s (the second restructuring). See Benjamin I. Cohen and Gustav Ranis, "The Second Restructuring", in Gustav Ranis, ed., Government and Economic Development (New Haven: Yale University, 1971), pp. 43-69.

5. See Edward S. Mason, et al, The Economic and Social Modernization of the Republic of Korea (Cambridge, Mass.: Harvard University Council on East Asian Studies, 1980), Chapter 6.

6. Nor is Korea any more dependent than other peripheral states, as the term "dependent" has been used by dependencia theorists to describe exploitative economic relationships between center and peripheral states. A major element of this exploitation, for example, is the heavy penetration of foreign capital. Multi-national corporations have a very small presence in Korea, while cumulated foreign direct investment of around a billion dollars (end of 1982) is insignificant relative to foreign borrowing (debt) of $36 billion. Heavy penetration of foreign capital may of course occur in forms other than direct investment or local activities of MNCs, and exploitation is not limited to heavy penetration of foreign capital but may be manifested in unequal exchange, "marginalization" or increasing inequality of income distribution, etc. There is little if any evidence of these other features that necessarily distinguish center from periphery, or explain the economic backwardness of the periphery. See Sanjaya Lal, "Is 'Dependence' a Useful Concept in Analyzing Underdevelopment?", World Development, Vol. 3, Nos. 11-12 (December 1975), pp.799-810.

7. The shift from one economic phase to the next is much less precise than is implied by the single-year bounds used here. They are used, however, for the sake of convenience.

8. See Bela Balassa, "The Newly-Industial Countries after the Oil Crisis", World Bank Staff Working Paper No. 437 (October 1980), pp. 24-25; the author's "Response to External Shocks: The Experience of Four Countries in 1973-80", Economic Notes (1982, No. 2), p. 137.

9. See the author's "The Dramatic Reversal of 1979-80: Contemporary Economic Development in Korea", Journal of Northeast Asian Studies, Vol. 1, No. 3 (September 1982), pp. 71-87.

10. The material in this section is taken in large part from one of the author's earlier works, "The Korean Economy in the 1980s: The Roles of Government, Restructuring, and Take-Off", scheduled for publication in Sino-Soviet Affairs.

11. For example, industrialization failed in 19th Century China, it is argued, because the Ch'ing government's share of GNP was so low (an estimated 1-2 percent) that it did not have the resources needed to support industrialization. See Dwight Perkins, "Government as an Obstacle to Modernization: The Case of Nineteenth Century China", Journal of Economic History, Vol. 27, No. 4 (December 1967), pp. 478-92.

12. Determinants of tax capacity are analyzed by Joergen R. Lotz and Elliott R. Morse in "A Theory of Tax-Level Determinants for Developing Countries", Economic Development and Cultural Change, Vol. 18, No. 3 (April 1970), pp.328-41.

13. Leroy Jones and Il Sakong, Government, Business, and Entrepreneurship in Economic Development: The Case of Korea (Cambridge, Mass.: Harvard University Council on East Asian Studies, 1980), p. 150.

14. Ibid., pp. 151-155. Issues of Korean public-enterprise pricing and efficiency are discussed in Gilbert T. Brown, Korean Pricing Policies and Economic Development in the 1960s (Baltimore: Johns Hopkins University, 1973).

15. Though the analogy is imperfect, the Park and Chun regimes are similar in significant ways to contemporary military regimes in Brazil and Argentina. See F. Cardoso, "Characterization of Authoritarian Regimes", in David Collier, ed., The New Authoritarianism in Latin America (Princeton: Princeton University, 1979), pp. 33-57.

16. G. William Dick, "Authoritarian versus Nonauthoritarian Approaches to Economic Development, Journal of Political Economy, Vol. 82, No. 4 (July-August 1974), p. 819. The presumed economic benefits of authoritarian regimes, such as political stability, firm purpose of direction, and shielding of decision making from popular demands or pressures of economic interest groups, are probably offset by the greater individual participation, benefits of nonconformity, and increased effectiveness of criticism associated with democratic or more competitive regimes.

17. Low income inequality should follow from land reform in the late 1940s and the 1950s, asset destruction during the Korean War and asset confiscation by the military government in 1961, and widespread generalization of education. A World Bank-Institute of Development Studies report shows an unusually low degree of income inequality for Korea, while an annex to the report (by Irma Adelman) suggests that the overall degree of income inequality has remained unchanged. See Hollis Chenery, et. al., Redistribution with Growth (London and New York: Oxford University Press, 1974). The validity of the evidence used to establish Korea's distribution has been questioned, however. See Bai Moo-ki, "Examining Adelman's View on Relative Income Quality in Korea: With Focus on Her Studies Outlined in the World Bank Report", Social Science Journal (Korean Social Science Research Council-Korean National Commission for UNESCO), Vol. V, No. 1 (1978), pp. 85-99. The recent Fifth Five-Year Economic and Social Development Plan indicates that inequality has in fact increased from 1965 to 1980. See Government of the Republic of Korea, The Fifth Five-Year Economic and Social Development Plan, Seoul, 1982 (English version), p. 9.

18. Gunnar Myrdal, Asian Drama: An Inquiry into the Poverty of Nations (New York: Twentieth Century Fund, 1968), Vol. I, p. 66, and Vol. II, pp. 895-900.

19. Jones and Sakong, op. cit., p. 139. This leaves the question of why the Rhee regime, unlike the Park and Chun regimes, was ineffective in enforcing economic policies. One possible reason is that the Rhee regime was ineffective because it was not authoritarian. A more persuasive reason is that it was ineffective because President Rhee gave priority to political rather than to economic problems, and was therefore not committed to economic development as was President Park or as is President Chun.

20. See B.R. Nayar, "Political Mainsprings of Economic Planning in New Nations", Comparative Politics, Vol. 6, No. 3 (April 1974), pp. 341-66.

21. See the author's "Korea's Five-Year Plans", in Irma Adelman, ed., Practical Approaches to Development Planning: Korea's Second Five-Year Plan (Baltimore: The Johns Hopkins University, 1969), pp. 40, 44-45.

22. See Youngil Lim, Government Policy and Private Enterprise: Korean Experience in Industrialization, Korea Research Monograph No. 6 (Berkeley: Center for Korean Studies, Institute of East Asian Studies, University of California, 1981), pp. 11-18.

23. L.L. Wade and B.S. Kim, Economic Development of South Korea (New York: Praeger, 1978), p. 196.

24. For example, "...the government developed effective planning procedures..." and "..it was...in the implementation of policy that the Park regime particurlarly distinguished itself from governments in most less-developed countries". See Edward S. Mason, et. al., op. cit., p. 293.

25. Comprehensive descriptions of the organized and unorganized money markets are given by David C. Cole and Yung Chul Park in Financial Development in Korea: 1945-1978 (Cambridge, Mass.: Harvard University Council on East Asian Studies, 1983), Chapters 3,4.

26. The extent to which the government controls the credit supply is necessarily conjectural. Curb-market activity is illegal, so little is known about the volume of curb-market lending. See the author's Economic Growth and Structure in the Republic of Korea (New Haven: Yale University, 1977), pp. 188-89.

27. Promotion measures are surveyed and effective exchange rates analyzed in Larry E. Westphal, "The Republic of Korea's Experience with Export-Led Industrial Development", World Development, Vol. 6, No. 3 (March 1978), pp.347-82.

28. Possible roles of American aid in restructuring are discussed by Ranis. See Gustav Ranis, "Why Foreign Aid?", Ventures Magazine (of the Yale University Graduate School), Vol. VIII, No. 2 (February 1968), pp. 22-30. Effective subsidy rates for export and domestic sales are estimated in Charles R. Frank, Jr., Kwang Suk Kim, and Larry E. Westphal, Foreign Trade Regimes and Economic Development: South Korea, Volume VII of a Special Conference Series on Foreign Trade Regimes and Economic Development (New York: National Bureau of Economic Research-Columbia University Press, 1975), pp. 197-200.

29. Korea in the 1960s was , in short, the epitome of the sort of economy described by Arthur Lewis in "Economic Development with Unlimited Supplies of Labour", Manchester School of Economic and Social Studies, Vol. 22, No.2 (1954), pp. 139-91.

30. See Hal B. Larry, Imports of Manufactures from Less Developed Countries, (New York: National Bureau of Economic Research-Columbia University Press, 1968), Chapter 3.

31. Labor intensity is measured, by convention, according to value-added per worker. Where value-added is high, it is assumed that inputs other than raw or unskilled labor, such as physical capital or human capital (i.e., workers who are paid more than unskilled wages) are high. The formulation here derives from Seev Hirsch, "Capital or Technology? Confronting the Neo-Factor Proportions and Neo-Technology Accounts of International Trade", Weltwirtschaftliches Archiv, Band 110, Heft 4 (1974), pp. 543-44.

32. Relative factor intensities of exports and imports depend upon whether imports are competitive or non-competitive with goods produced in Korea, and on a number of assumptions that have to be made if non-competitive imports (i.e., bananas) were replaced with domestic production. See Wontack Hong, "Capital Accumulation, Factor Substitution, and Changing Factor Intentsity of Trade: The Case of Korea (1966-72)", in Wontack Hong and Anne O. Krueger, eds., Trade and Development in Korea (Seoul: Korea Development Institute, 1975), pp.65-87.

33. See David C. Cole and Larry E. Westphal, "The Contribution of Exports to Employment in Korea", in W. Hong and A. O. Krueger, op. cit., pp. 89-102.

34. Kaname Akamatsu, "A Historical Pattern of Economic Growth in Developing Countries", The Developing Economies, Preliminary Issue No. 1 (March-August 1962), pp. 3-25.

35. The value of investment in human capital in 1960 was estimated by C.Y. Jung to be somewhat larger than that in physical capital, and to have grown more rapidly during the 1960s. A reference to Jung's estimates can be found in Youngil Lim, "Korea's Trade with Japan and the US: Issues and Implications", in The Korean Economy: Issues of Development, Korea Research Monograph Number 1 (Berkeley, California: Institute of East Asian Studies, Center for Korean Studies of the University of California, 1980), pp. 44-45.

36. Jong-seok Seo, "Fifth Five-Year Economic and Social Development Plan", Korea Exchange Bank, Monthly Review, Vol. XV, No. 10 (October 1981), p. 2.