

Report No. 5102-KO

Korea's Development in a Global Context

June 1984

East Asia & Pacific Region

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CURRENCY EQUIVALENTS

Currency Unit - Won (W)

	<u>Calendar 1983</u>	<u>June 1984</u>
US\$ 1.00 =	W 775.75	W 795.0
Won 1,000 =	US\$ 1.29	US\$ 1.26

ABBREVIATIONS

BIS	-	Bank for International Settlements
BOK	-	Bank of Korea
DMB	-	Deposit Money Banks
EPB	-	Economic Planning Board
FF	-	Fertilizer Fund
GMF	-	Grain Management Fund
ICOR	-	Incremental Capital Output Ratio
KEXIM	-	Korea Export-Import Bank
KIET	-	Korea Institute for Industrial Economics and Technology
MITI	-	Ministry of Trade and Industry (Japan)
NIC	-	Newly Industrialized Countries
NIF	-	National Investment Fund
OMA	-	Orderly Marketing Arrangements
STFC	-	Short Term Finance Companies

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Note: \$ denotes US dollars

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Abstract: The Korean economy took three years to adjust to the second oil shock, but by 1983 the most serious difficulties were past; inflation had been contained, the balance of payments gap had been significantly reduced and the growth momentum restored. After reviewing, briefly, the experience of the early eighties, this report assesses Korea's development prospects, as outlined in the revised Fifth Plan, from the perspective of changes occurring in the world trading environment. The report concentrates on (i) the scope for domestic resource mobilization through financial and fiscal reforms; (ii) trends in Korea's exports and the likely evolution of international demand for Korean goods; and (iii) opportunities and problems faced by the seven manufacturing subsectors that currently and prospectively provide the bulk of the country's exports. The revised Fifth Plan projects a growth rate averaging 7.5% over the period 1984-86 and a balance of payments equilibrium by 1986. While these are ambitious objectives, the analysis in this report suggests that given international trade and financing opportunities combined with supportive macroeconomic and industrial policies, the Government's objectives can be realized.

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KOREA

KOREA'S DEVELOPMENT IN A GLOBAL CONTEXT

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The Report was prepared by a mission that visited Seoul during November-December 1983. The mission was comprised of S. Yusuf (Mission Chief), L. Ahamed, F. Byamugisha, G.R. Kincaid (IMF), E.Y. Park (Consultant), R.K. Peters and A. Virmani. Assistance in the preparation of the report was also provided in Washington by Y. Hirao and M. Laurent.

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KOREA

KOREA'S DEVELOPMENT IN A GLOBAL CONTEXT

Summary and Conclusions

1. There has been a strong revival of business confidence and economic activity in Korea during the last eighteen months. This is in marked contrast to the early 1980s, when the international recession and excess manufacturing capacity, a legacy of the heavy industry development program pursued throughout the second half of the 1970s, resulted in stagnation and pessimism.

2. With the Government's investment policies leading the way, the economy gathered speed early in 1983. By the middle of the year, the pull exerted by construction activities was supplemented by export growth in transport equipment, machinery, footwear, iron and steel products, and apparel, arising out of the strong recovery in the US. Korean merchandise exports rose by 17% in terms of volume. Taken together with the increase in domestic consumption and investment spending it was sufficient to raise the national product by 9.3%.

3. Comparable growth rates were last experienced in the late seventies, a time of rising prices and widening deficits in the balance of payments. What was so unusual about the economic resurgence in 1983 was the negligible inflation (3.4% compared to 18% in 1979) and the small current account deficit (\$1.6 billion or 2.1% of GNP compared to \$ 4.2 billion, or 6.4% of GNP in 1979). Declining oil and raw material prices certainly helped to stabilise prices and to reduce the import bill but they alone could not have carried the day. Tighter financial and wage policies were effective in moderating domestic core inflation. The steady ascent of household savings out of the 1980 trough and the recent success of the government's own campaign at increasing public savings by enforcing checks on its expenditures, supported the growth of exports. At the same time energy conservation measures, after a hesitant start in 1981 were beginning to have a noticeable effect on purchases of fuel, that account for nearly a quarter of Korea's total import bill.

4. It was with this considerable macroeconomic achievement as a backdrop, that the Government unveiled the revised Fifth Plan which describes the goals for the next three years. The revised Plan does not depart significantly from its predecessor issued two years ago although the improvement sought in the balance of payments is greater than what was desired earlier. It updates policies and projections using the experience of 1982-83 and the recent trends in the world economy as a guide. Economic growth of 7.5%, primed by a 10% average increase in export volume, remains the macroeconomic centerpiece of the Plan. Most of the gains in exports are sought in the steady maturing of heavy industries such as steel, machinery and transport equipment, and the ability of subsectors like electronics to achieve a degree of technological competence sufficient to deepen their penetration of markets in the OECD countries. Industrial policies aimed at modernizing facilities,

promoting innovation and enhancing competitiveness by way of refinements in quality and a continuing growth in labor productivity, will be buttressed by measures assuring price stability and an adequate volume of domestic saving.

5. Price stability, according to the Plan is critical not only because it is a necessary ingredient of successful exporting but also by virtue of its positive consequences for financial deepening, resource allocation, and savings. The latter is the key which reconciles the projected growth rate of the economy with a current account equilibrium by 1986. External balance has assumed prominence, due to the current international borrowing environment and Korea's large outstanding external debt. Korean policymakers feel that they should and can limit their net borrowing and move as quickly as possible to an eventual reduction in total debt outstanding.

6. The current account deficit, which mirrors the demand for foreign savings, is equal to the gap between gross investment that regulates growth and the supply of national savings. Balance of payments equilibrium rests, therefore, on the manipulation of savings and investments so as to arrive at a matching. Reducing investment is always the easier of the two, but it penalises growth unless the productivity of capital can concomitantly be raised, by adjusting the composition of investment so that short gestation, high return projects receive more prominence. Spending on electricity generating facilities is being cut because of a slower projected growth in demand, but given that the development of infrastructure is in a very intense phase, with many lumpy, power, transport, energy and housing investments underway, there may be relatively small room for altering the investment mix. Some gains in the productivity of capital can come from increased capacity utilization although the scope for this, after eighteen months of rising demand, is rather restricted. Modernization of facilities and innovation also promise high returns from a limited outlay of resources. But even allowing for the additional output which can, in the short term be squeezed out of the manufacturing sector, fixed investment necessary to support a growth of 7.5-8% might not fall much below 31% of GNP over the 1984-86 period. It was 31.8% in 1983.

7. The national accounts indicate that gross investment was scaled down to 27-28% in 1982 and 1983 by depleting inventories of raw materials and finished goods. The future behavior of inventories is not so easily plumbed. Cuts in stockholdings of the magnitude experienced in recent years simply cannot continue. Eventually inventories will have to be replenished and if instead of the decline in stocks being assumed, producers were to start adding to their holdings of intermediate products, there could be a delay in reaching balance of payments equilibrium. It is possible that the procedure used to estimate inventories in the national accounts is exaggerating the swings and perhaps, underestimating domestic savings. If so the Government's balance of payments projections through 1986, which rely on the assumption of lower inventories would be within reach.

8. National savings declined from 28.1 % of GNP in 1979 to 21.9 % in 1980 but thereafter, rebounded to 22.4 % in 1982. They rose a further 2% of GNP in 1983 in equal measure because of the behaviour of households and the budgetary policies of the government. The Plan projects a savings rate equi-

valent to 29.3% of GNP in 1986 based on a continuing upward trend in private savings and a widening of the spread between the current revenues and expenditures of the public sector which would push government savings to 8.3 % of GNP (from 7.1 % in 1983). A savings rate slightly above 29% of GNP and a level of fixed investment around 31% (both premised on GNP growth averaging 7.5-8%), would translate into a small current account deficit by 1986 unless inventories can be adjusted downwards for three successive years. Alternatively, similar results might be attained if investment were reduced but its efficiency increased, especially through improvement in the management structure of public sector corporations, currently being introduced.

9. On the basis of past aggregate savings performance and the anticipated movements in GNP, the trajectory for savings presented in the Plan appears realistic although household saving propensities will be influenced by policies towards real interest rates, continued price stability and the demand for consumer durables. Further, the public sector's ability to raise savings from 7% in 1983 to 8.3% of GNP by 1986 through the freezing of certain project related expenditures and enforcing economies in the administrative sphere, will be an important ingredient of the overall effort in mobilizing resources.

10. Taken together, the scenario delineated in the revised Fifth Plan is a plausible one. Of course a great deal hinges on the evolution of the international economic environment and Korea's trade strategy; financial reforms that could stimulate private savings as well as productivity enhancing allocative efficiency; success at overcoming industrial problems likely to interfere with the supply and competitiveness of exports; domestic demand management, which by buffering the economy to an extent against oscillating foreign demand, could reduce the uncertainty for businessmen; and finally, the results of the recent push for an enlargement of domestic R&D, calculated to ease Korea's entry into new fields, while sharpening its edge in the market for some of its current exports.

Trade Strategy and the International Environment

11. For a country that now occupies fourteenth place among the World's trading nations export-led growth on the scale of the 1970s is problematical for two interrelated reasons: (i) there is the likelihood that the OECD countries, Korea's principal trading partners will grow more slowly than in the seventies, which would weaken their demand for imports; (ii) slower growth, widespread unemployment and the inability of the leading high technology subsectors in the advanced economies to absorb the structurally unemployed, not to mention workers now employed in some of the declining industries, have posed a serious dilemma for Governments in the OECD. Free trade and allocation of resources mediated by market forces is supposed to assure efficient use of resources, tends to maximise welfare and lead to full employment. However, this reallocation of resources is not proceeding smoothly. The birth of vibrant new industries is not keeping pace with the decay of the old and the overhang of the unemployed is growing steadily larger. With imports from LDC's threatening to make the existence of many traditional industries, which are important sources of employment, even more precarious, the attraction of free-trade is being overshadowed by political and economic concerns supporting protectionism. The orderly marketing

arrangements, quota restrictions and voluntary restraints that have become so obtrusive in trade relations, may be here for some time and these could depress the high import elasticities for particular products. The very magnitude of Korea's exports and the importance of a small number of items such as clothing, footwear, consumer appliances, steel products and transport equipment also now militate against high export growth in the future. Taken individually or as a group the newly industrialized economies of East Asia significantly affect the industrial health of a handful of OECD countries which are their main trading partners. Since the bulk of their trade is in the items produced by the declining, traditional subsectors of the developed countries, great dislocation is caused in certain industries whose employment is so large that political reverberations are inevitable. Major inroads on narrow, vulnerable fronts, at a time of high unemployment are leading to protectionist resistance which, if it persists, would make losers of all countries but especially nations heavily reliant on trade.

12. The state of the world economic environment and prevailing limitations on trade by the advanced countries argue in favor of a trading and industrial strategy supporting a balanced and gradual expansion of exports from a broad array of manufacturing subsectors instead of major spurts in the overseas sales of a small number of industries, which would have to involve the deep penetration of a few products into slowly growing OECD markets. Sectoral diversification of exports could ideally proceed hand in hand with a substantial increase in intra-industry trade, with Korea, for instance specializing in certain kinds of machinery and importing others, producing particular varieties of clothing and looking towards other countries to supply different parts of the domestic market.

13. Such a strategy would allow Korea's planned increase in export volume, without arousing resentment among its trading partners who would see their own trade opportunities growing. Korea is now at a stage when there is room for dismantling import restrictions and trimming tariffs without jeopardizing a number of mature industries. In fact, for several years the government has been steadily expanding the list of importables subject to automatic approval (expected to reach 85% in 1984 and exceed 90% by 1986) and is moving towards a reduction of tariff barriers.

14. Again, given that its resources of capital and skilled manpower are limited, it would be good economics as well as trade policy if the country were selective in the backward and forward linkages that are exploited. Through specializing in some areas within particular industries and allowing other linkages to leak abroad, industrial efficiency would be strengthened and growing intra-industry trade with other economies would defuse the tensions which spring up when trade is one-sided. These initiatives might mean that the balance of payments deficit closes at a rate slower than is anticipated, but international financial markets permitting, this might be in the country's longer run interests, seeing that returns on capital are still high and hence foreign savings could be economically utilized.

Foreign Borrowing

15. Balance of payments objectives must be attuned to the international borrowing climate. There is no doubt that with the international capital markets still reeling from a series of debt crises and banks having grown sensitive to their country exposures, Korea, the fourth largest debtor among the LDCs, must be cautious in assuming that its additional demands will be easily met. In the near term, foreign markets might remain fairly tight in spite of the improvements that have occurred in Korea's debt ratios (e.g. the ratio of total debt outstanding to GNP was 54% in 1983 and the debt service ratio, including interest on short term, was 19.9%). But gross borrowing in the region of \$7 billion per annum may be feasible over the next two to three years. This is somewhat beyond the requirements envisaged in the revised Plan, and hence provides some cushion against the uncertainties inherent in economic forecasting. In particular, a modest shortfall in national savings, or a reversal in the trend in inventories could be accommodated through somewhat greater external borrowing rather than an adjustment of the growth trajectory. Thus unless the loan rates are distinctly unattractive this should allow Korea the latitude to manage its economy with reference more to longer term growth, trade and industrial concerns, than to the balance of payments.

Resource Mobilization and the Financial Sector

16. In the Korean growth calculus, exports are one side of the coin, domestic savings another. As stated above, a change in budgetary dynamics could add 1-2% of GNP to national savings. But the financial sector could also make a contribution to a more efficient use of savings. A decade long effort by the Government has led to a considerable broadening of the financial system. A host of nonfinancial intermediaries now compete against the commercial banks and market participants can raise money through fairly active commercial paper, bond and stock markets. However, past government attempts at providing subsidised credit through the banks to the industrial sector and supporting the development of other financial institutions, meant imposing low deposit and loan rate ceilings on the commercial banks. This weakened their ability to bid for deposits and extensive reliance on directed credit circumscribed their allocative capabilities.

17. In one sense the expansion of other segments of the market at the expense of the banks can be read as a sign of financial broadening and a multiplication of choices for savers and investors alike. But, this process was not an unmitigated blessing. At early stages of development, banks have advantages in terms of accessibility and low transaction costs which make them attractive to relatively unsophisticated savers. On the side of allocation the scope of their operations gives them unique advantages in accumulating information and pooling risks. This is borne out by the experience of Japan, France and Germany, where banks remain the principal source of financing for companies and the preferred repositories of private savings.

18. Hobbling the banks lowered their effectiveness and deflected financial activities towards other wings of the market and encouraged a measure of innovation. But closer analysis suggests that the new instruments may not

have contributed very significantly to the objectives of financial diversification, resource mobilization and efficient allocation. As described in Chapters 3 and 6, the bond market is dominated by corporate bonds, almost all of which are guaranteed by the banks and in an indirect manner, serve as bank loans. Most transactions in the secondary market for bonds are predicated on repurchase agreements varying between one and three months. The nature of these transactions is very similar to that of short-term loans against the collateral of bonds and does not approximate the outright sale typical of markets in developed countries.

19. Although 326 companies are listed on the stock market, trading is dominated by the shares of the 40 major conglomerates. The thinness and volatility of the market as far as shares of other companies are concerned, makes insider trading the rule and discourages small investors from entering the fray. Investors other than majority shareholders are also discouraged by the low level of share prices and the large variance in yields. While the average return on equity over the period 1976-82 was 22.8% as compared to 21% for bonds, the variance of the former was 67.4%, that of the latter, 22%. The difference in returns did not compensate for the risk, with the result that the number of stock holders declined by almost a third between 1978 and 1982.

20. Some weaknesses are also apparent in the operations of the short-term investment finance companies whose higher deposit ceilings have enabled them to bid funds away from the banks. These companies are owned by the major industrial groups and more frequently than not their operations are oriented towards firms associated with the owning group and their satellites. From the perspective of economy-wide resource allocation, this has its drawbacks. Money circulates between individuals and firms drawn together by the force field of common business interests, but it rarely spills over the boundaries in search of fresh opportunities.

21. The Government is continuing with its attempts to strengthen the bond and the stock market, and has sharpened competition among the Finance Companies by permitting new entrants. Over the medium-term these should produce welcome dividends. But since the immediate concerns are resource mobilization and efficiency in allocation, commercial banks merit the closest attention. Given the sophistication of most savers, raising the interest rate ceilings on bank deposits may do more for the financialization of savings than the propagation of new financial instruments. The permission to issue CDs at 11% interest that was granted in June 1984 will allow the commercial banks to attract more funds. A larger deposit base together with the latitude to differentiate lending terms by risk and maturity could enlarge the role of the banks in the allocation of capital. As indicated earlier, the seven commercial banks with their extensive branch networks and close contacts with a range of businesses, are strategically placed to channel funds efficiently. Widening their spreads would enable them to improve their capital ratios that bear the marks of years of low profits. Larger capital bases would better enable the banks to accommodate risk and give them incentives to develop new business. Wider spreads would also provide banks with the cash flow needed to raise the calibre of their staff and expand the range of services they can offer.

Directions of Industrial Development

22. The financial sector can contribute towards the efficiency with which resources are used, but there are also gains to be realized by tackling industrial problems at the source. Compared with the seventies, when Government emphasized industry specific support, the rapid deepening and greater complexity of the industrial sector have necessitated a change in approach. The government's current approach favors functional support in such areas as improved technology transfer, tax policy, foreign investment, efficiency of labor markets, and enhanced productivity to encourage greater efficiency across a broad spectrum of highly linked subsectors. Seven industries—textiles, footwear, machinery, automobiles, shipbuilding, steel and electronics — together account for 46% of manufacturing output. Some of these are confronting the traumas of middle age, while others are still trying to cope with the teething problems to which infant industries are prone. A functional approach offers the best prospect for an efficient path through these diverse problems. The problems are seven main subsectors and their export prospects, which are discussed fully in Chapter 5, are sketched below. This is followed by a summary of the main approaches for achieving growth and productivity gains in the industrial sector.

Textiles

23. Still the largest manufacturing industry and the first ranked exporter, textiles are faced with competition from other developing countries and protectionism in its major markets abroad, while their diminished prospects have hampered essential modernization. Textiles is a subsector which by virtue of its economic weight cannot be treated with benign neglect. Since the advanced countries are increasing their competitiveness in yarn and fabrics, development efforts might perhaps be concentrated in apparel with the emphasis being on design of products and automation of production methods.

Footwear

24. Although Korea is the world's second largest exporter and its prospects for the medium-term look secure, it remains relatively weak in the area of design and marketing, and the industry's geographical concentration of exports renders it vulnerable to quota barriers that are springing up in the U.S., the principal market. Another potential threat stems from the labour intensive and unsophisticated nature of the manufacturing process, which increases the possibility of new entrants, that could challenge Korea's position in the footwear trade.

Steel

25. Korea has emerged as an efficient producer of carbon steel and has begun making inroads into the U.S. and Japanese markets. As there is little question that the country enjoys a comparative advantage in producing steel, the problem is largely an external one. How much headway Korea is able to make depends on the willingness of the industrialised countries to provide it with (i) the necessary technology and capital; and (ii) markets for Korean exports by closing inefficient plants and dropping protectionist barriers.

Shipbuilding

26. This industry is an offshoot of steel production in Korea. By virtue of its capacity, modern facilities and low costs, it has captured a fourth of the world market for new ships. This could increase further as demand for vessels recovers from the current slump, but Korean shipbuilders must develop the indigenous research capabilities necessary for the construction of sophisticated ships if they are to broaden their market share. They also need to raise the industry's profitability, through productivity improvements, so as to acquire the financial resources necessary to consolidate their position.

Machinery

27. The program to create a base of heavy industry launched in the early 1970s brought into existence facilities capable of producing a wide spectrum of machines. But given Korea's technological capabilities the most substantial gains, in the medium term, appear to be in general machinery. As this subsector is crowded with many small, undercapitalised producers, with limited experience, mergers between firms, training of workers, greater specialization, more attention to R&D investment in new equipment and the parallel development of subsectors such as metallurgy and electronics, are all necessary to fully realise the industry's apparent export potential.

Automobiles

28. An efficient and successful automobile industry requires a market larger than what Korea has been able to provide. The future lies in raising domestic sales - which carries with it the penalty of growing congestion and energy costs - and also establishing a sizable presence in the OECD countries. The prohibitively high costs of developing the requisite technological sophistication as well as problems in surmounting entry barriers thrown up by the western countries, renders collaboration with the major international auto companies a necessity. Considerable progress has been made in producing cars domestically but the supporting infrastructure of subcontractors remains weak. Arrangements negotiated with G.M. and Mitsubishi hold out the promise of a take-off by the domestic motor car industry later in the 1980s. These companies may also be able to provide the know how and incentives for strengthening the subcontracting network.

Electronics

29. While Korea is a major exporter of consumer durables such as TV sets, radios, calculators and watches, with high hopes of entering the markets for VCRs, semi-conductors, and mini-computers, this industry faces an uphill battle. First, the research base is weak and the rapidly changing technology makes this a serious competitive handicap. Second, the advantage seems to be shifting towards large vertically integrated firms selling a range of products and relying on lavish research expenditures to custom design key inputs. As there are 900 mostly very small firms in the subsector, the Korean electronics industry is critically in need of rationalization, grouping efficient producers of parts around a few large firms. Third, consumer durables, the most

attractive product category from the viewpoint of comparative advantage, must now run the gamut of increasingly stringent import restrictions in the U.S. and Europe and in the medium term, Korea may have to seek markets in East Asia and some of the LDCs.

Other Engines of Growth

30. In a world where competitors are proliferating and the principal markets are becoming harder to penetrate, achieving growth targets will call for considerable ingenuity, and skill in choosing among, a menu of policies. The state of Korea's industries and international trading circumstances suggest that the highest pay-off might be obtained from:

- (i) demand management which magnifies the part played by the domestic market with the smallest balance of payments penalty;
- (ii) measures which raise industrial productivity;

Demand Management

31. Domestic demand yielded a substantial pay-off in early 1983 by raising economic activity in advance of the world business recovery. Because demand was directed towards industries with plentiful excess capacity, production could expand without there being a prior need for an increase in capacity. Demand management along these lines could become an even more potent force behind macroeconomic stability in the future. Should exports grow less rapidly than is projected, or international business activity become susceptible to erratic fluctuations, demand switching could sustain the domestic economy and by stabilising expectations encourage businessmen to embark upon capital intensive projects, which depend on stable markets and where returns are distributed over a long period of time. Demand switching towards goods produced by the manufacturing sector, by accelerating its expansion, can also raise average productivity.

Productivity

32. There are many avenues leading to higher productivity though no certainty of arriving at the goal. Structural change which increases the share of the manufacturing sector can raise average productivity. So can investment in mechanization, better management, heightened motivation of the work force and many others. All of these can make a contribution in the Korean context but two that might be singled out for special attention are labour-management relations and research on technology. As industry has moved up the ladder of sophistication, human skills and experience have gained in importance. In machinery, for instance, where learning is one of the main factors influencing productivity, an experienced labour force is most valuable. Hence it is a matter of concern when turnover rates, even in industries where skilled labour has a large share of the labour force, are so significant - ranging from 4 to 12% per month. These are much in excess of those in Japan and even higher than in the U.S.. While it is difficult to explain precisely why workers display so little loyalty towards their companies, the nature of employment contracts, shop-floor working arrangements

and relations with management could be among the factors determining their behaviour. A greater awareness of this problem on the part of corporations, changes in the organization of work and the system of remuneration would advance the cause of productivity.

33. The Government's target is to increase spending on R&D to 2% of GNP by the end of the plan period and it has hopes that such investment will secure Korea a place among the exporters of high technology products. Certainly, research has much to offer and there is no substitute for indigenous technological mastery when it comes to assimilating and building upon research done abroad. A minimum amount of R&D can serve a "listening post" function in all major subsectors and it can be a conduit for productivity enhancing innovations. But before vast sums are expended on more advanced investigations, it is useful to explore fully the opportunities provided by overseas training, licensing and joint ventures. A latecomer can take short cuts in technologically stable industries such as steel, machinery, ship-building and textiles. In electronics and bio-technology, however, the international firms that generate many of the new discoveries are reluctant to share them until they have exhausted the lion's share of the rents. Here independent research is unavoidable and Korea has made a start. More resources could usefully be channelled into these fields. But the wise course in these subsectors would be to proceed gradually, accumulating knowledge, experience and scientific manpower before embarking upon any expensive, high risk ventures.

CHAPTER I

INTERNATIONAL TRADING OPPORTUNITIES AND CAPITAL MARKETS

1.01 By effectively harnessing its abundant supply of skilled labor for the production of manufactured exports, Korea, in the 1960s, overcame its acute scarcity of natural resources and through successful trading, swept aside the constraints which a small domestic market can impose on growth. The national product doubled between 1963 and 1971. It expanded a further 112% in the following 8 years, so that by 1979, the country had attained a per capita income of \$1,662, putting it a long and prosperous distance from the \$80 income level of 1963. Because of the second oil shock, a serious harvest failure in 1980 and the necessity of adjusting to the industrial capacity created by a highly ambitious investment program, the economy paused during the early 1980s. Exports and the government's efforts to modernize the infrastructure provided a degree of stimulus, but economic activity was relatively sluggish all through 1982, the average growth for the three year period being under 2%.

1.02 In 1983, with the public sector's spending on construction as a spur and businessmen's hopes once again revived by the prospects of buoyant export markets, Korean growth rose to the levels that had been normal in the previous decade. The GNP, drawn by a 17% increase in exports and the brisk pace of domestic investment, grew by over 9%, raising per capita income to US\$1,850, and with merchandise exports in excess of \$23 billion - 1.27% of the world total - Korea became the 14th largest trading nation.

1.03 Such a performance during a time when the rest of the world was barely recovering from a prolonged recession, certainly lends credence to the belief that Korea's economic prospects through the middle of the decade are quite assured. The 7-8% annual growth in GNP projected in the revised Fifth Plan (1982-86) coupled with a 10% average annual increase in export volume, appears almost modest seeing that growth in the OECD countries is expected to average 3.3% through 1986 ^{1/} - compared to 2.3% in 1983 - and international trade could expand as much as 5% per annum as against 1.0% in the past year. (See Table 1.1 for data on recent trends in growth and trade). However, the conditions under which the current cyclical upswing in world business activity is occurring does temper some of the optimism regarding Korea's medium term prospects. For a country that is so heavily dependent on trade, the strength of export demand emanating from its major trading partners is of vital importance. In this case, five countries, the US, Japan, Germany, France and Britain absorb well over half of Korea's merchandise exports, hence the vigor of industrial expansion in these economies exerts a pull whose significance is no less than the stimulus from Korean domestic demand. The level of unemployment in the major OECD countries, ^{2/} (9%), the difficulties being encountered by some of their major industries, ^{2/} and market saturation for certain traded goods, have not only clouded the future growth prospects of the major industrial nations but have also engendered protectionist pressures which could crimp the increase in world trade.

1/ Notes to the text are given in Annex 4.

Table 1.1: WORLD TRADE SUMMARY, 1980-84
(Percentage changes)

	1980	1981	1982	1983
<u>World Trade</u>				
Volume	2.0	0.5	-2.5	1.0
Unit value (in US dollar terms)	20.0	-1.0	-4.0	-
<u>Volume of trade</u>				
<u>Exports</u>				
Industrial countries	4.8	2.5	-2.5	0.5
Developing countries				
Oil exporting countries	-12.3	-16.0	-19.1	-4.0
Non-oil developing countries	9.0	6.3	0.8	4.5
Korea	9.7	17.3	6.2	17.0
<u>Imports</u>				
Industrial countries	-1.5	-1.9	-0.5	3.8
Developing countries				
Oil exporting countries	15.3	19.9	5.1	-8.0
Non-oil developing countries	4.7	2.6	-7.7	2.5

Source: IMF, World Economic Outlook, 1983; IMF Occasional Paper No. 1

1.04 International capital flows, which assumed a critical role in sustaining economic activity over the past decade, especially since the first oil shock, are a second imponderable (Table 1.2). The recent debt crises and the developed nations demand for credit during the upturn of the cycle, suspend a question over the volume of such funding that will be available to countries such as Korea. An interruption in the growth of capital transfers would cause serious inconvenience, possibly restraining growth and the deepening of the industrial base.

1.05 A clearer idea of the constraints affecting Korea, with regard to trading opportunities and capital availability, can be gained by analyzing more closely the current economic circumstances of Japan and the US. Between them they provide a market for 44.1% of Korea's exports (in 1982), and their financial markets are the principal sources of private loans.

Trade

1.06 US. Much of the increase in Korea's exports during 1983 resulted from the pace of recovery in the US. While all indications are that the US economy will expand at the rate of 4% or more in the next two years, many American industries are under considerable stress, burdened with excess capacity and having to cope with widespread unemployment. As a consequence,

**Table 1.2: EXTERNAL LENDING AND DEPOSIT TAKING /a OF BANKS
IN THE BIS REPORTING AREA /b, 1978-82
(US\$ billions)**

	1979	1980	1981	1982
<u>Destination of Lending /c</u>	125	160	165	95
Industrial countries	69	96	99	57
Oil exporting developing countries	7	6	2	8
Non-oil developing countries	41	49	51	25
Centrally planned economies /d	5	5	5	-4
International organizations and unallocated	3	4	8	9
<u>Sources of funds /c</u>	125	160	165	95
Industrial countries	66	103	141	102
Oil exporting developing countries	37	41	5	-19
Non-oil developing countries	13	8	9	5
Centrally planned economies /d	5	1	-	2
International organizations and unallocated	4	7	10	5
<u>Change in net claims /e</u>	-	-	-	-
On industrial countries	3	-7	-42	-45
On oil exporting developing countries	-30	-35	-3	27
On non-oil developing countries	28	41	42	20
On centrally planned economies /d	-	4	5	-6
International organizations and unallocated	-1	-3	-2	4

Sources: Bank for International Settlements (BIS); and IMF staff estimates; IMF Occasional Paper #23.

- /a The data on lending and deposit taking are derived from stock data on banks' claims and liabilities (net of redepositing among banks in the BIS reporting area) including an adjustment for valuation changes due to exchange rate movements. Data on adjusted flows are provided by the BIS, but the distribution of those adjusted flows among the major groups of countries according to Fund classifications is a staff estimate.
- /b The BIS reporting area includes all banks in the Group of Ten countries, Austria, Denmark, Ireland, and Switzerland, and the branches of U.S. banks in the Bahamas, the Cayman Islands, Hong Kong, Panama, and Singapore.
- /c The classification by major groups of borrowers (depositors) was derived from BIS data in the following manner. For industrial countries, gross claims (liabilities) were reduced by redepositing among banks in the reporting area but increased by claims on (liabilities to) offshore centers. The latter thus were assumed, in the absence of the availability of a country classification of the on-lending from (deposit taking by) offshore centers, to represent lending to (deposit taking from) industrial countries. For the other groups of borrowers and depositors, net claims (liabilities) were taken to be equivalent to gross claims (liabilities).
- /d Excluding Fund member countries.
- /e Lending minus sources of funds.

protectionist sentiments against the import of manufactures, that further erode the profitability of these subsectors, have been rising. The problems faced by US firms have less to do with a secular shift in demand away from their products than with the appreciation in the value of the dollar which has deflected ^{3/} both domestic and export demand, towards the products of other countries. US exports to the Latin American market - which accounts for 40% of total US merchandise sales abroad - have also been diminished by the serious difficulties faced by Mexico and the southern cone countries in financing trade and repaying their debts. ^{4/} Thus, exports which had increased rapidly during 1978-80 when the dollar was weak, ^{5/} have slackened dramatically, a large trade deficit equal to \$56.2 billion in 1983 has emerged, and industries producing tradables are being subjected to a continuous buffeting. The main onslaught is being felt by a number of subsectors that are large employers and whose weakening cannot be easily tolerated. They include textiles, automobiles, shipbuilding, consumer electronics, steel and machinery. Much of the pressure on these industries comes from Japan, which in 1982 ran a \$12.1 billion trade surplus with the US and from the NICs on the Pacific rim whose surplus totaled \$6.7 billion (Table 1.3). The European countries, in particular Germany, whose export

Table 1.3: EXPORTS OF EAST ASIAN NICs AND JAPAN TO THE US /a
(US\$ million)

	<u>1981</u>			<u>1982</u>			<u>1983</u>		
	EX	IM	Balance	Ex	Im	Balance	Ex	Im	Balance
Singapore	2,771.9	3,486.5	-714.5	2,650.9	3,685.0	-1,034.9	3,925.8	4,221.5	-296.1/a
Hong Kong	5,742.4	2,839.9	2,902.9	6,140.3	3,040.2	3,100.1	3,715.2	1,716.7	1,998.5/b
Other East Asian Economies	7,912.4	4,516.2	3,297.2	8,999.7	4,688.6	4,311.3	10,273.3	4,225.0	6,048.3 /c
Korea	5,660.6	6,049.6	-389.1	6,243.2	5,955.8	287.4	8,245.4	6,274.4	1,971/d
<u>Total</u>	<u>22,087.3</u>	<u>16,991.2</u>	<u>5,096.1</u>	<u>24,034.1</u>	<u>17,369.6</u>	<u>6,664.5</u>	<u>26,159.0</u>	<u>16,438.0</u>	<u>9,721.0</u>
Japan	38,626.5	25,175.5	13,451.0	36,198.2	24,053.5	12,144.7	42,494	25,426	17,068.0 /e

- /a 1983 Jan.-Dec.
- /b 1983 Figures from January to August only.
- /c 1983-Jan.-Nov.
- /d Jan.-Dec.
- /e Preliminary

Source: Singapore, Economic Bulletin; Hong Kong, Hong Kong Monthly Digest of Statistics; Korea, Monthly Bulletin, Bank of Korea (BOK); Japan, Monthly Statistics of Japan, Statistics Bureau; IMF, Direction of Trade Statistics.

trade is bigger than that of Japan are less troublesome (except possibly in steel) for a number of reasons: their exports to the US are quite diversified, whereas the East Asian producers have a much more concentrated thrust;^{6/} this two-way trade in manufactures with the European countries is relatively balanced, while the US exports a very limited volume of manufactured goods to Japan; a substantial amount of the European exports to the US are made by subsidiaries of American firms; and finally, the East Asian sellers frequently engage in price competition which US manufacturers with their high cost and fairly modest profit margins have difficulty combatting.^{7/}

1.07 An upshot of all this is the multiplication of quota restrictions, orderly marketing arrangements, voluntary export restraints, and anti-dumping actions aimed primarily at imports of textiles, automobiles, steel, consumer electronics and footwear. Almost 40% of Japanese exports are affected and as Korean trade in similar goods has risen, a growing proportion of Korea's exports to the US are subject to restrictions not easily sidestepped through upgrading or by re-export from third countries.^{8/} Further, Korean goods that are admitted into the U.S. market free of tariffs - about a fifth of the total - under the Generalized System of Preferences (GSP) might not enjoy this privilege for very long. A realignment of the dollar parity and vigorous domestic expansion could ease the pressures for import control but with unemployment still above 8%, the likelihood of Korean exports increasing their penetration of US markets in areas such as yarn, garments, footwear, consumer electronics and steel, in the medium term, are somewhat less certain.

1.08 Japan The share of Korea's exports to Japan has been falling steadily for a number of years. In 1983 most items registered a decline in nominal terms, one exception being steel plate, a commodity for which Korea has captured 70% (1.4 million tons) of Japanese imports. There are several reasons behind this downward trend. One is, of course, the slow growth of the Japanese economy over the past three years. Second, Korean exports, especially of textiles and clothing, are being displaced by those from the PRC, Philippines and South Asian countries, all of which have large reserves of cheap labor and are widening their competitive margin over Korean products. A third factor is the continuing resilience of even the traditional light industries in Japan at a time when the opportunities for profitable expansion into new sectors are very limited and energy intensive industries are in retreat.^{9/} The infusion of new technology and capital into textiles, for instance, has permitted many Japanese firms to neutralize the challenge from overseas, while the rapidity of technological advance and a shortening of product cycles, has enabled producers of consumer electronics to minimize the threat to their markets, at home as well as abroad. Rising wages continue to threaten some Japanese industries with obsolescence, opening beachheads for exports from her neighbors, but the effectiveness with which Japanese firms have contained labor costs, the low propensity to import manufactures^{10/} and the slow increase in domestic consumption, limit the scope for market penetration by Korean products.

1.09 Europe Much the same applies to the major European countries. They too are scrambling to buttress their traditional industries through modernization supported by trade controls, while attempting at the same time to frame policies that will secure the future of their new industries, such as electronics. The 3% growth rate being projected for these economies through 1985-86^{11/} will reduce the numbers of the unemployed, but joblessness will

remain a problem for some time and it will interfere with the dismantling of import controls.

1.10 Non-oil LDC's Although growth rates close to 5% are forecast for the non-oil developing countries, their potential for absorbing Korean goods is bound to be circumscribed by the difficulty of financing imports and the need to restrict their foreign exchange outlay in order to reduce their debt obligations. In fact there is a real possibility that instead of providing export outlets for Korean producers, some of the developing countries will compete more aggressively against Korean goods in the world market and curtail their domestic consumption of foreign goods.

1.11 OPEC Almost 13% of Korean export trade is with the Middle Eastern oil producers and this was the only area, other than the US, to which sales increased in 1983. While their commitment to industrialization makes the oil producing nations a potentially buoyant source of demand, their absorptive capacity is limited and there is a danger, that for many goods, their markets will soon be saturated. If oil prices remain fairly stable, the financing of development programs, currently being sustained by borrowing or the drawing down of reserves, will become more difficult.

1.12 Even though economic activity in areas with which Korea has trading links, is quickening, the growth of its exports will hinge very much on the success of the advanced economies ^{12/} at shifting resources from declining industries to new sectors, and diminishing unemployment.

Capital Flows

1.13 Following the second oil shock, Korean borrowing rose to \$8.4 billion in 1980 with the country having to finance a domestic savings gap of 10.2%. Since then, increased mobilization of domestic resources and effective adjustment policies have lowered foreign capital inflows. In 1983, Korea borrowed \$5.7 billion but the likely persistence of a small savings gap, amortization payments, reserve accumulation and the financing of exports on credit, are expected to generate gross MLT borrowing needs of about \$6.0 billion annually between 1984 and 1986. ^{13/} Korea's prospective export performance, high rate of domestic savings and moderate debt service ratios (21% for total debt, 15% for MLT debt service) could make the country an eminently attractive borrower. But the recent spate of debt reschedulings have soured the lending climate. Commercial banks, their portfolios weighed down by loans to financially precarious economies in Latin America and Eastern Europe, are reluctant to increase their exposure in the developing world, when the recovery of business in the OECD countries lengthens the list of safer options. ^{14/} While some redirection of capital flows toward the center and away from the periphery is normal in a period of recovery, ^{15/} the situation is rendered more complex during this cycle by a number of developments. First, the OPEC countries, which for several years were major net lenders, have been transformed by the weakening demand for oil into large borrowers (Table 1.2). Second, borrowing by the US has attracted a significant share of international net savings which finances a substantial part of current net investment. ^{16/} Although the US is by far the largest borrower, France and some of the Scandinavian countries have also been drawing upon the international capital market, with their greater creditworthiness allowing them to nudge aside less affluent borrowers. Third, "non-voluntary lending" by commercial banks to

countries faced with debt crises precipitated by high interest costs,^{17/} has further depleted the supply of capital.^{18/} Fourth, the handful of countries with net savings that others can draw upon - Japan, Germany, Switzerland, Kuwait and the UAE - closely monitor access to their capital markets where interest rates are regulated. Fifth, having suffered through the various Latin American crises, neither Japanese banks nor the Ministry of Finance, which supervises their lending operations, are inclined to repeat the experience elsewhere in the world.^{19/} Hence, exposure limits are more conservative and are adhered to closely.

1.14 While this does not constrain East Asian countries such as Malaysia and Thailand that have borrowed frugally and have relatively small debt burdens, Korea, which with \$40.1 billion in debt outstanding (DOD) was the fourth largest debtor nation in 1983, is in a more delicate position. Economic criteria and the geopolitical situation support lending to Korea; prudent banking principles weigh the scales in the other direction, possibly limiting the increase in lending to Korea to the rate at which the major banks enlarge their capital base, i.e., about 6-7% per annum. Finally, and this is where capital and trade issues are completely intermeshed, the surplus savings of Japanese households which directly and indirectly finance investment in the US, also cause Japan to run a large current account surplus.^{20/} Almost 30% of Japan's exports are to the US (1983) whereas she imports only modest amounts of either American manufactures or raw materials.^{21/} This puts large segments of key US industries that compete against Japanese exports on the defensive, and there is pressure on Japan to curtail the trade surplus and by implication, the gap between domestic savings and investment. To the extent that Japan is able to whittle away at the gap, the volume of international net lending will diminish.^{22/} While the dollar remains the principal reserve currency and a magnet for capital seeking a "safe haven", the US (and the European countries) will continue to obtain the resources they require. However, less favored economies, such as Korea might have to be satisfied with a smaller increase in their share.

1.15 As the OECD economies have recovered from the ravages of the Second World War, as they have depleted the technological backlog to rebuild and modernize their industries, as the consumption of material goods has climbed to unimagined heights, and as natural resources, particularly energy,^{23/} have become more costly, their potential for continuing high growth has diminished. Since economic relations between the advanced nations and the NICs are closely intertwined, this makes the scope for very rapid, export-led growth by medium sized economies, much smaller. As a trading nation, Korea is a long distance from Japan and while the world economy might have difficulty accommodating another country exporting as much as Japan does,^{24/} there remains room for Korea to grow, albeit at more moderate rates as long as its trade and industrial strategy is judiciously devised. But whether Korea's ambitions can be reconciled with those of the other newly industrialized economies of East Asia, whose combined merchandise exports total \$78.5 billion in 1982 (or 57% of Japan's) is a very different matter. What seems feasible when viewed from the perspective of a single, dynamic East Asian country, becomes more questionable when the field of vision is widened to embrace the other nations in the Pacific region. It is from this perspective as much as the one drawn from past trends that Korea's growth, trade and industrial strategies must be analyzed.

CHAPTER II

THE MACROECONOMIC PATH TO 1986

Adjustment in the Eighties

2.01 In terms of growth, the late 1970s were a high water mark for the Korean economy. Between 1976 and 1978, the GNP expanded at an average rate of 11%. Much of the impetus during 1976-77 came from export demand and in fact Korea registered a current account surplus of \$12 million in 1977. The following two years saw a tapering of export growth because a downward drift in the real effective exchange rate rendered Korean goods somewhat less competitive in overseas markets. It was the extraordinary surge in investment spending that propelled the economy during 1978-79, an investment boom that brought into existence much new capacity in the heavy and chemical industries. Fixed investment, which was 31% of GNP in 1978, rose to 33% in 1979 and with overseas demand being scarce and a devaluation imminent, producers accumulated large inventories. At the time of the second oil shock, gross domestic investment was at a peak, close to 36% of GNP, some 8% in excess of domestic savings, with the result that the current account deficit was \$4.2 billion.

2.02 The 136% increase in oil prices during 1979-80, plunged the Korean economy into the worst recession it had experienced in seventeen years. This was partly because of the resource transfer equal to 6% of GDP arising from the deterioration in the terms of trade. But a failure of the rice harvest in 1980, the enormous overcapacity in industry, which precipitated a collapse of private investment, and the contraction in real money balances stemming from a tight monetary policy must also share responsibility. For the overheated economy, the steep ascent of oil and raw material prices was the last straw. Inflation, as measured by the WPI, rose from 18.8% in 1979 to 38.9% in 1980 in spite of a reduction in the growth of M2, which together with the above mentioned cut in real money balances, created a monetary environment unusual for an economy accustomed to abundant supplies of credit.

2.03 Adjustment to the second oil shock was a gradual process. Although manufacturing investment by the private sector declined (and there was a slight rundown of inventories in 1980) in both 1980 and 1981 under the weight of low capacity utilization, indifferent market prospects and profitability ratios seriously undermined by the sharp increase in foreign debts and the local currency costs of debt servicing, investment in infrastructure was maintained. Fixed investment was 32% of GNP in 1980 and close to 29% in the following year. Meanwhile, domestic savings decreased by over 5% of GNP as Korean households, unlike their Japanese counterparts,^{1/} remained faithful to the "ratchet" theories of consumption behavior and maintained their spending.^{2/} The government resisted taking stronger measures to restrain domestic investment, because OPEC's decision once again generated an abundance of capital in the international market, needing to be recycled. Inflationary conditions also pushed the interest costs of foreign borrowing to attractively negative rates. Thus, in 1980, the current balance widened to \$5.3 billion, equivalent to 10% of GNP.

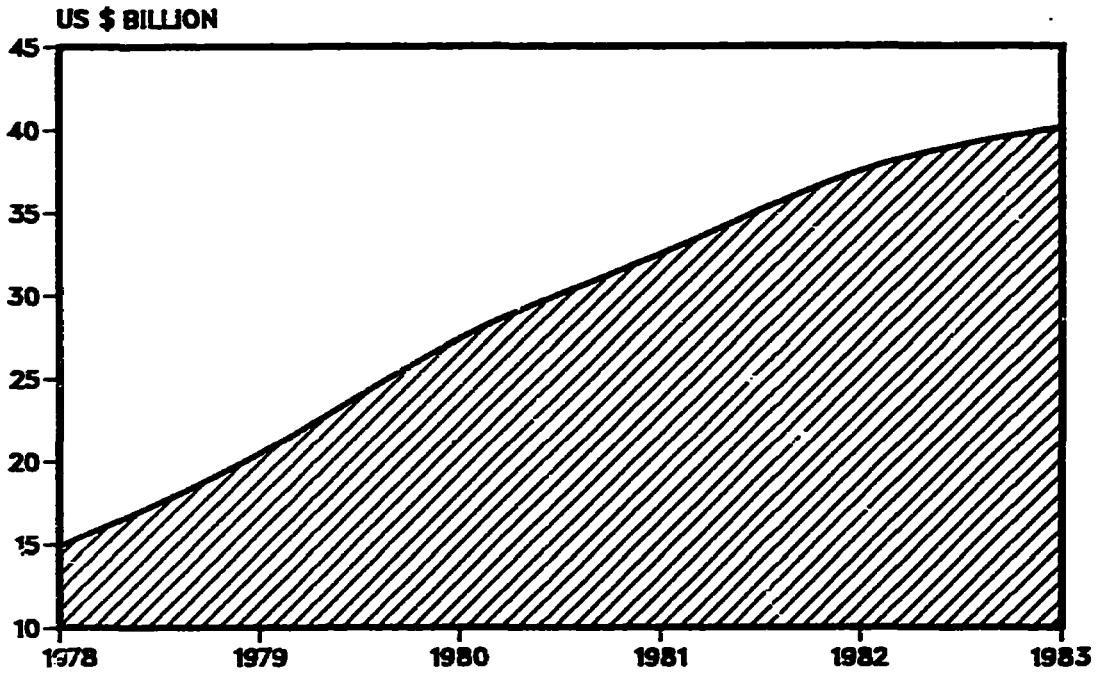
2.04 As economic activity remained at a low ebb in 1981 and businessmen continued to worry about the country's future, private investment slid further. Once again, by borrowing heavily abroad, the government sustained public sector investment. By avoiding the adjustment in public investment for two years, the government averted an even worse deterioration of the business climate; but the heavy reliance on foreign savings caused Korea's total external debt to grow by 59% from \$20.5 billion in 1979 to \$32.5 billion in 1981. (Chart 2-1).

2.05 By 1982, with the hopes of world economic recovery in the air, private spending on housing and office buildings revived, followed by a modest increase in manufacturing investment. This served to reinforce the deflationary influence of public investment and enabled the economy to grow 5.6% even though real exports, which expanded by less than 5.8%, provided minimal support for the recovery. A significant narrowing of the current account deficit in 1982 to \$2.6 billion (nearly \$4 billion if errors and omissions amounting to \$1.4 billion are included) ^{3/} suggested a redoubling of the government's efforts to bring about external adjustment in the face of sharply rising real interest rates on foreign debt. But whereas private savings were higher, they only served to accommodate the increased investment spending. Almost the entire gain in the external balance apparently came from the running down of inventories. These fell by an amount equivalent to 3.3% of GNP, bringing gross domestic investment to 27%. Two forces could have been at work. First the high real interest costs and the scarcity of domestic credit discouraged firms from holding large inventories. Second, producers who had accumulated stocks of finished goods by utilizing their newly installed capacity in the two previous years, preferred to draw down inventories instead of increasing the output from their plants. Capacity utilization dropped to its lowest point - 69.5% - in 1982 even though economic conditions were somewhat more propitious than they had been for some time.

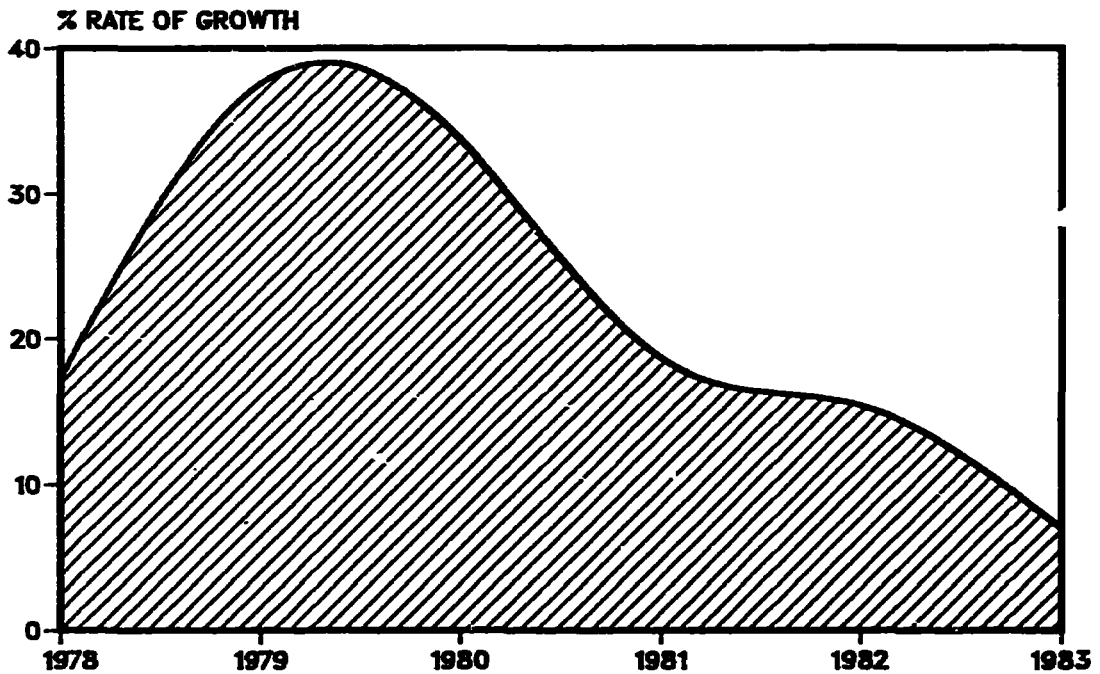
2.06 Domestic construction gathered additional momentum in the early part of 1983, raising the economy's growth rate over 9% and drawing manufacturing investment in its wake. Initially this was concentrated in industries that supported building activities, but an upward shift in export demand, from the middle of the year, encouraged producers of electronics, machinery and textiles to raise their capital spending. Higher fixed investment, about 32% of GNP, was supported by a growth in the savings of the government as well as households, but the national accounts show that a depletion of inventories was equally important in reducing the current account deficit to \$1.6 billion (\$2.6 billion with the addition of errors and omissions) or 2.1% of the GNP.

2.07 To have halved the current account deficit in three years is a considerable achievement and government stabilization policies which promoted the recovery of savings, while holding investment at levels sufficient to ensure a modicum of growth, deserve much of the credit. But the adjustment process was also influenced by some tightening of credit and interest rate policies which discouraged companies from holding large volumes of raw materials and finished goods. The increased efficiency in the use of energy is another noteworthy factor. Korea's imports of crude oil rose from \$2.2 billion (15% of total imports) on the eve of the second oil shock to \$5.6 billion in 1980 (23% of total imports) and \$6.5 billion in 1981. But by instituting a wide range of

KOREA STOCK OF EXTERNAL DEBT



GROWTH RATE OF EXTERNAL DEBT



measures to encourage energy conservation, the government has been able to lower the energy intensity of GDP. The index of the energy/GDP ratio falling from 114.6 in 1980 to 106.0 in 1982. Imports of oil which increased in real terms by 0.3% during 1981, fell by just under 1% in 1982. In 1983, oil usage rose by 8% but the fall in oil prices held expenditures on imported crude to \$5.6 (P) billion. Three years is too short a time to cure the many inefficient practices that result in a waste of energy. Much more needs to be done and the gains from conserving energy could be a source of major savings of foreign exchange in the years ahead.

2.08 While policies affecting savings, investment and trade were central to the effort of correcting the external imbalance, the government's attempts at quenching inflation, aside from their significance for financial development, enhanced export competitiveness and might even have had a part in the recovery of household savings. Money supply was first tightened in 1979 as policymakers shifted their attention from the goal of maximizing growth to controlling the inflationary spiral which had arisen in the rapidly expanding economy. The increase in M2, that averaged 38% during 1977-78 was brought down to 27% in 1979 and maintained at close to that level for the next three years, finally being reduced to 16% in 1983, a year in which prices rose by 3.4% (CPI).

2.09 During the seventies both cost push and demand pull pressures were instrumental in raising prices and it is difficult to decide whether monetary policy played an active or an accommodative role. Price equations that were estimated do not support the hypothesis that inflation was being propelled by the money supply.^{4/} But this may be because throughout the period for which tests were conducted - 1966-83 - money supply was more or less in balance with demand. The existence of a stable demand for money function suggests that the growth of the money supply, if it had a small part in actually generating inflationary pressures, may have been decisive in validating them.^{5/} From the attempt to decompose inflation into domestic and imported components, it appears that two thirds of the increase in prices during 1974-78 was of domestic origin (Table 2.1). It fell to 40% in 1979-81, but domestic core inflation arising primarily from wages has re-emerged as the main cause of rising prices during 1982-83 (67%). This may reflect the substantial gains in real wages during 1982-83. After declining by 6% in 1980 and another 1% in 1981, real wages in the formal sector climbed by 7% in the course of 1982 and nearly 13% during 1983. As productivity rose 4.5% in the manufacturing sector and by a fraction of that amount in services, this undoubtedly worsened company profits in 1982. Although the growth in productivity was larger last year, companies still needed to accommodate higher labor costs in some fashion. In this they were helped by the 6% depreciation of the Won against the dollar in 1983. But some of the increase in costs has found its way into selling prices.

Table 2.1: DECOMPOSITION OF INFLATION INTO FOREIGN AND DOMESTIC FACTORS

	Inflation <u>/a</u> Rate (%)	Domestic Inflation Component (%)	Foreign Inflation Component (%)
1974	42.1	22.9	19.2
1975	26.3	16.6	9.7
1976	12.1	11.7	0.4
1977	9.0	7.5	1.5
1978	11.7	7.8	3.9
1979	18.7	11.4	7.3
1980	38.5	13.6	24.9
1981	20.7	8.2	12.5
1982	4.7	3.8	0.9
1983	0.8	-0.2	1.0

/a Inflation as measured by the WPI.

2.10 To summarize: stable or declining raw material and fuel prices have contributed substantially to the easing of the price spiral. At the same time domestic core inflation has been curbed by a weak demand during 1980-82, a tighter money supply and the wages policy, but inflationary expectations have not been suppressed altogether. And the possibility remains that a further strengthening of the economy in 1984, by adding fuel to wage demands in manufacturing, could spark a round of price increases in the service sector. The latter usually matches the wage increases negotiated by manufacturing workers but cannot easily absorb the growth in costs since the annual productivity increments in services are relatively small.^{6/}

2.11 Unemployment has not been a central concern of Korean policymakers. The economic problems of the early 80s certainly pushed recorded nationwide unemployment to levels not seen for over a decade, but the 5.2% rate of 1980 did not persist for long. By 1981, unemployment was down to 4.4% and it was 3.8% in 1983, an extraordinarily low rate by international standards.

2.12 These statistics are an average of the extremely low rates of open unemployment prevailing in the rural areas and the higher levels of joblessness - particularly among school graduates - encountered in the cities.^{7/} They also suffer from problems of definition and reporting but these are hardly unique to Korea. What is noteworthy, however, is the distribution of job openings, the implications they hold regarding the nature of future work opportunities and the trend in average productivity. While the economically active population has grown at an average rate of 2.3% p.a. since 1979, a small proportion of the new entrants have been absorbed by the manufacturing sector. The vast majority, including the migrants from the farming sector

(about 370,000, of all ages migrated each year, 1979-82) ^{8/} have found jobs in service industries. As Table 2.2 shows, employment in manufacturing fell after 1979 and it was not until 1983 that the earlier peak was surpassed. The underlying trend seems likely to persist. Employment elasticities in manufacturing for the period 1970-82 (see Table 2.3) reveal a steady decline, a reflection, no doubt, of the changing industrial structure and the increasing capital intensity of production techniques. As discussed in Chapter 6 a reversal of this trend seems most improbable although a substitution of capital for labor could be slowed by measures which stabilize the relative price of labor.

Table 2.2: EMPLOYMENT IN INDUSTRIAL SECTORS: 1979-83

	Total Employment	Agriculture Forestry & Fishing	Manufacturing and Mining	Services /a
1979	13,664	4,887	3,237	5,540
1980	13,706	4,658	3,096	5,952
1981	14,048	4,806	2,996	6,247
1982	14,424	4,623	3,157	6,644
1983	14,515	4,314	3,383	6,818

/a Includes employment in construction.

Source: Monthly Statistics, BOK.

Table 2.3: MANUFACTURING EMPLOYMENT ELASTICITIES /a

1970-1982	:	1.057
1970-1975	:	1.394
1973-1978	:	1.077
1975-1980	:	0.790

/a Calculated by least-squares regression with respect to real GNP.

2.13 The steady increase in the numbers employed by the service sector, which traditionally has achieved a very low rate of productivity growth, will depress the average improvement in productivity for the economy as a whole and give rise to incipient inflationary tendencies.^{1/} This phenomenon, which has become highly obtrusive in the advanced industrial economies, can be moved farther into the future by a combination of trade and domestic demand

management policies ensuring a rapid growth of the manufacturing sector. The form such policies might take is described later in the report.

Revising the Fifth Plan

2.14 At the early stage of a business recovery the impression gathered by reviewing the principal economic indicators often tends to be mixed, evidence of a marked improvement in some areas being countered by persistent weakness in others. By the conventional criteria, Korea has recovered with remarkably few scars from the recession of the early 80s. The government clearly is of the view that sustained export-led growth, with a balance of payments surplus by 1986, can be confidently projected. In revising the Fifth Five Year Plan it has not only reaffirmed its faith in the country's future economic prowess, but learning from the recent experience, attempted also to clarify the objectives that will serve to guide planners and businessmen alike through the middle of this decade.

2.15 Keenly aware both of Korea's potential as an exporter of manufactures and its vulnerability to the tensions besetting the international capital market, Korean planners have attempted to reconcile growth with price stability and external adjustment. An annual gain of 7.5% in the GNP serves as a point of departure for the planning exercise. This is considered to be the minimum rate of expansion consistent with stable levels of unemployment as the urban labor force will be growing by close to 3% per annum for the next several years. A growth rate of this order cannot be sustained for any length of time mainly on the strength of domestic demand without sizeable external deficits. And since a second priority of the government is to attain a modest BOP surplus by 1986 in order to contain the size of the external debt, the growth and payments objectives can only be squared if the volume of exports increases annually by 10-11% while imports grow no faster than GNP, terms of trade remaining unchanged.

2.16 Balance of payments equilibrium calls for a matching of domestic savings with domestic investment. It also assumes that the country will adopt a combination of exchange rate and industrial policies such that it can produce goods in demand overseas and can market them at competitive prices. On the side of resource balances, the government has pruned the vast public investment program by shelving its plans to construct two nuclear power stations, delaying the commencement of work on the 11th and 12th units and stretching out the construction schedules of four out of the six plants now being built as the projected demand for electricity is lower than what was being assumed earlier.^{10/} But this still leaves a very considerable volume of capital spending on transport urban infrastructure, power and water supply projects which is not easily pushed into the future. In addition, the government intends adding nearly a half million new housing units - a little less than 50% of the number to be constructed - to the stock of housing.^{11/} When taken together with the projected increase of industrial capacity, gross fixed investment should remain very close to the level reached during the past two years.

2.17 A little under one quarter of the GNP was saved last year (24.4%) and the Plan sees savings climb to 29.3% by 1986. For a current account

surplus to be realized, therefore, gross domestic investment must fall somewhat below that figure. Higher savings require the mediation from suitable industrial and macroeconomic policies for them to be able to raise exports. The emphasis of the government's industrial initiatives is on technology. Encouraging local R&D, licensing new technology from abroad and modernizing equipment are expected to consolidate Korea's position as a trading nation in promising fields such as consumer electronics, basic metals, machinery and transport industries, as well as raising productivity (see chapters 5 and 6). Progress in technology is one prong of the trade strategy. A second is price competitiveness. By limiting monetary growth (M2) to 12% p.a. between 1984-86, bringing the public sector budget into balance within three years, using moral suasion to check wage demands and barring external price shocks—the government will attempt to keep inflation close to the level reached in 1983.

2.18 Past experience has shown that Korea has almost invariably been able to go beyond the often very high standards of performance set down in the Five Year planning documents. The revised Fifth Plan is no less taut and ambitious than its predecessors. But the international milieu has changed and there is now greater uncertainty over the extent to which Korean determination can regulate with extreme precision, a complex, open economy and at the same time prevail over the political sediment settling into the channels of trade. Beyond matters of consistency, there loom questions of the feasibility, and even possibly, the desirability of the goals presented in the Plan, some of which are elaborated and analyzed in the following chapters.

CHAPTER III

SAVINGS, INVESTMENT AND FINANCIAL INTERMEDIATION

3.01 To keep the economy growing by 7.5% per annum while simultaneously moving towards a current account equilibrium calls for a sizable increase in domestic savings and improvement in the efficiency of investment. Given the nature of the investment program the first might be more readily attained than the second.

3.02 As a proportion of GNP, domestic savings doubled between 1964 and the late seventies reaching a level of 28.5% in 1978. Although the contribution of the corporate sector was far from negligible and the maintenance of government savings at about 6% certainly helped, much of the growth resulted from the heightened saving propensities of households. The increase in household savings to 10% of GNP in 1979 drew its momentum principally from the very rapidly rising incomes, but several other factors also influenced household savings behavior. The development of financial markets, offering individuals convenient financial instruments in which to hold their savings at attractive real interest rates, certainly encouraged the financialization of savings and might also have enlarged the quantum of real savings. Aside from this, a host of institutional circumstances had a hand in modulating the habit of savings. A very strong desire to educate children, the absence of consumer credit, the unavailability of mortgage financing and the non-existence of a social security system, provided powerful incentives for household savings. Paying workers a significant percentage of their annual salary in the form of bonuses, given twice a year, sharpened the inclination to accumulate. All these determinants of savings, which are often difficult to isolate quantitatively have been useful in illuminating the trend in Japanese savings as well as those of some other East Asian societies with institutions similar to the ones found in Korea.^{1/}

3.03 The cut in real incomes resulting from the oil shock reduced household savings to 4.6% of GNP by 1981, as families ate into their savings so as to preserve their consumption standards. This was reversed in 1982 with the onset of a more favorable economic climate so that by 1983, household savings had risen to 7% of GNP - although they remained some distance from the pre-1980 levels (about 10%).

3.04 Profits and the existence of lucrative investment opportunities are among the variables known to affect corporate savings.^{2/} There was certainly no dearth of projects for companies to pursue during the sixties and the seventies. With returns rising steadily in the seventies, corporate savings had grown to a healthy 10% of GNP by 1979. Subsequently, anaemic profits in the years of recession, lowered corporate savings to 8.5% in 1981. The faster economic pace during 1983, helped spur accumulation but corporate savings remained below the level reached in 1979.

3.05 Government savings have remained more stable over the past five years than private savings. Inflation, which in the past had buoyed government revenues through bracket creep, and in combination with the "inflation tax"^{3/} had served to raise savings, declined steeply in 1981. By compressing

revenues, this tended to reduce savings. In 1983, the much higher than anticipated growth of the economy more than offset an even lower rate of inflation as well as a cut in taxes. With expenditure calibrated to a smaller increase in GNP, government's savings increased to over 7%.

3.06 On the basis of past experience the government's goal of a national savings rate of 29.3% by 1986 would seem to be within reach since it requires the economy to go only a little beyond what was achieved in 1979. As the growth in household incomes (which strongly influences how much people save) during the next three years is likely to be less than the average for the 1976-79 period, such a line of reasoning assumes that saving propensity is stronger now than it was earlier. This is difficult to establish. In fact, the growth in demand for consumer durables in 1983-84 would if anything, point towards a shift in the household consumption function. Higher spending by individuals could be balanced by greater corporate and government savings and as described below, the latter is projected to be 1.2% of GNP larger by 1986. The former should also regain the ground lost in the early eighties if the upward trend in corporate earnings persists. Thus, casual empiricism would tend to support the Government's estimates. To see if it could be bolstered by more formal methods some econometric tests were conducted.

3.07 Attempts at projecting savings in the future are rendered hazardous by the need to forecast a number of key macro-variables that propel national savings and by having to assume that behavioral parameters will not drift from the estimates squeezed out of historical time series. An analysis of past trends indicates that domestic savings are sensitive to the level and growth of GNP the real time deposit rate and the rate of inflation (Box 3.1). The equation derived very closely tracks past movements in savings (see Chart 3.1). When this function is used to project savings over the period 1983-86 the predicted outcome for 1983 is 23.9%, slightly less than the preliminary estimate, which is 24.4%. Savings increase by 0.7% of GNP in 1984, as against 2.3% estimated by the government. By 1986, the equation forecasts savings equal to 26.6% of GNP. The results obtained fall below the estimates in the revised plan, primarily because the government expects that the recent changes in the budget will yield higher savings than those generated by a model fed upon time series data.

3.08 Empirical analysis is unable to uncover anything other than a stable log linear relationship between the level of GNP and government savings. Neither the rate of inflation, interest or the growth in GNP has any significance. Using the savings elasticity derived in this fashion, produces forecasts of government savings in the region of 5%, whereas the Plan offers a figure that is more than 2% higher. The government's calculations are grounded in a drastic revision of its budgetary strategy that draws upon the concept of zero-basing and assumes that the growth of expenditures will be carefully controlled. Since the government's ability to enlarge its savings will be critical for the fulfillment of the Plan's objectives, it is necessary to sketch the public sector's budgetary dynamics. A more detailed discussion is presented in Annex 2.

The Public Sector: Structure Constraints and Strategy

3.09 The public sector in Korea embraces the operations of both the central and the local governments, with the center's budget comprised of the General Account (G/A), a number of special accounts, two non-financial public enterprises and 24 funds. Several of the Funds and special accounts are large and important especially in terms of their contribution to the overall public sector deficit. Of these, the Grain Management Fund (which buys rice and barley from farmers and acts as a buffer stock, smoothing out price fluctuations); the Fertilizer Fund (the financial conduit through which fertilizer is purchased from producers and distributed to the farmers), the National Investment Fund (which channels resources into selected industries), and the National Housing Fund (subsidizing dwellings), are the biggest. Taken together, losses involved in their operations amounted to 78% of the public sector deficit in 1982.

Box 3.1: DETERMINANTS AND PROJECTIONS OF NATIONAL SAVINGS

I. Regression Analysis

$$\text{NTSAV} = -6.32 + 1.475 \text{ GDP} + 1.158 \text{ RTDR} + 1.605 \text{ INFL} + 1.851 \text{ GNPGR}$$

(8.74) (20.43) (2.58) (2.63) (4.08)

(t-statistics in parentheses)

Time Period: 1966-1982 Adjusted R-squared = 0.981 DW Statistics = 2.034

NTSAV = log of national savings; GNP = log of real GNP (1975 prices);
RTDR = log of real time deposit rate (1 year). INFL = log of
inflation rate; GNPGR = log of real GNP growth rate.

II. Projections of National Savings

A. Assumptions:

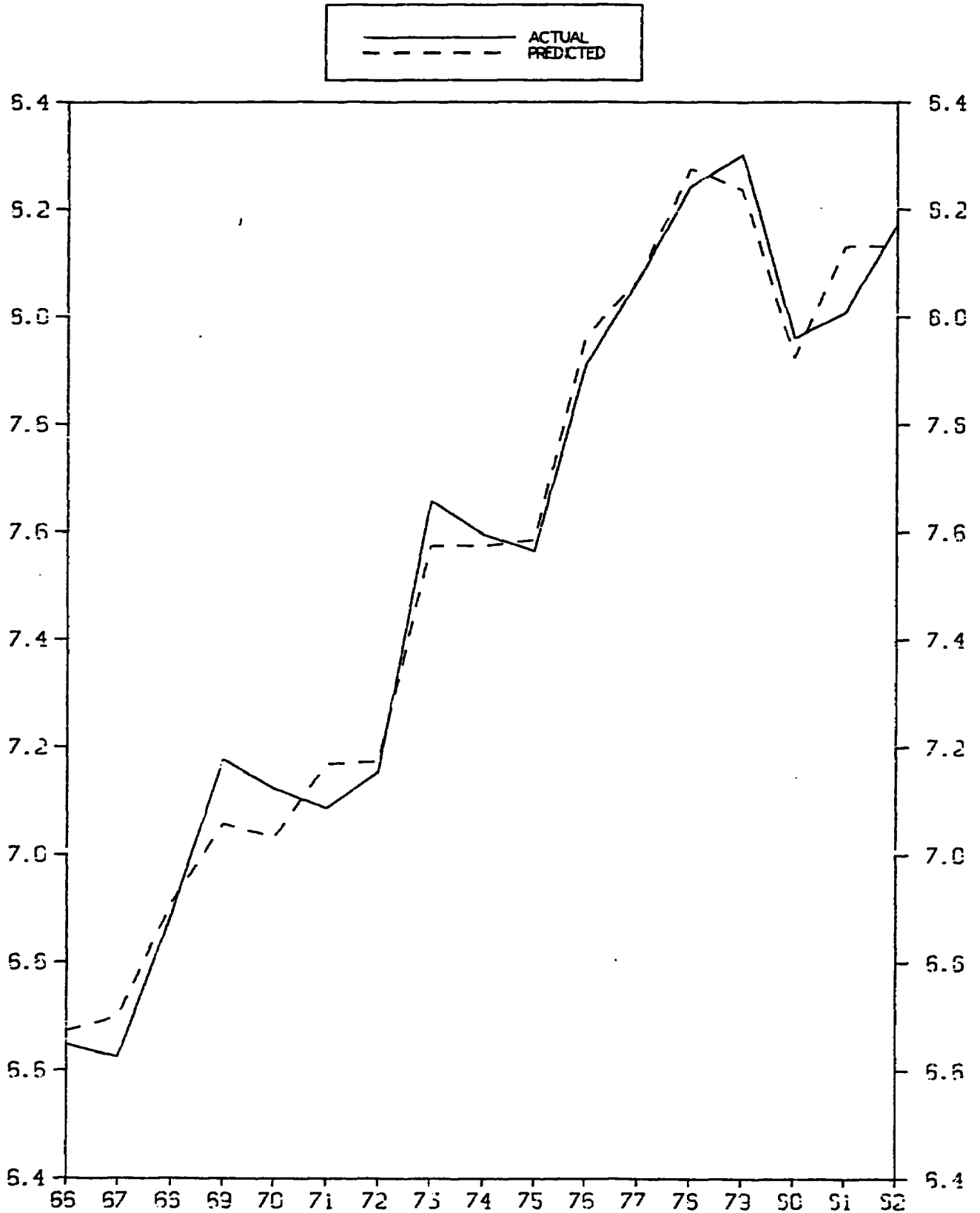
	GNP growth	Inflation	Real time deposit rate
1984	7.5%	3.0%	6.0%
1985	7.5%	3.5%	5.5%
1986	7.5%	4.0%	5.5%

B. Projections (as % of GNP):

		<u>Government estimates</u>
1983	:	24.4
1984	:	26.7
1985	:	28.1
1986	:	29.3

Chart 3.1

NATIONAL SAVINGS : ACTUAL VS PREDICTED



3.10 According to the 1984 Budget, the public sector deficit will shrink to 0.6% of GNP from 2.7% in 1982 as a consequence of (i) an 83% decline in the deficit of the Loan Management Special Account; (ii) an 82% fall in the losses registered by the GMF; (iii) a 67% drop in the deficit of the NIF since 1982; and (iv) 375% increase in the surplus of the G/A over a two year period. Besides the savings accruing from changes introduced into the operations of the various funds, the government also intends limiting its G/A expenditures. It has set a ceiling on its outlay during 1984 which permits no increase over the level of 1983. This ceiling will be raised over the next two years at a rate equal to the growth in GNP. Administrative costs are also being controlled through a freeze on public sector employment in 1984 and no more than a 3% rise in salaries for all public sector employees.

3.11 The tax reductions enacted during 1982 have had the effect of lowering the elasticity of government revenues. In addition, a cut in import tariffs will drain W 60.3 billion from customs duties in 1984, W 16.0 billion in 1985 and W 6.3 billion in 1986. But, in order to prevent further erosion, the defense surtax, expected to expire in 1985, will most probably be renewed for another five years, and customs duties on petroleum imposed in 1983 will funnel W 201 billion into the budget in the course of 1984.

3.12 Measures taken by the government in 1983 narrowed the public sector deficit by 2% of GNP from the year before. This was a major achievement. Reducing it further will be increasingly difficult because certain items of expenditure cannot easily be changed, and this could dampen the growth of government savings that had reached 7% in 1983 (Table 3.7). For instance, by virtue of statute:

- (a) defense expenditure must equal 6% of GNP;
- (b) grants-in-aid to the local government are to remain at 13.27% of domestic tax revenue although supplementary assistance will be eliminated;
- (c) education grants will absorb 11.8% of domestic tax revenue; and
- (d) receipts from the education surtax will be entirely devoted to education expenses.

3.13 With perhaps 70% of total expenditures more or less fixed in the short-term, project expenditures and administrative costs must bear the full force of the economy drive. For 1984, it is planned to scale down the so-called flexible expenditures by 5.6% in nominal terms. This translates into a 15.5% fall in administrative expenses and only a 1.2% growth in project outlay.

3.14 When a budgetary restructuring as far-reaching as this one is embarked upon, calculations, of a necessity, tend to be finely balanced and easily upset by unforeseen movements in certain key parameters. The ability to control public sector wages that have tended to lag behind those in the private sector, will, of course, be crucial. To succeed, the government must not only prevent a widening of the wage gap and the discontent which this

would generate, it must also prevent inflation from exceeding the rate of 1983 at a time when international prices will be increasing by 4-6%.

3.15 The very slow growth in project expenditure planned for 1984 and possibly beyond, may help in balancing the budget, but its macro-economic and industrial ramifications should not be lightly glossed over. To grow, the Korean economy requires savings. It also needs the pull of demand. During the last four years, public spending allied with export growth has provided the demand impetus. A sudden fall in the growth rate of government spending on projects could, aside from its effect on aggregate demand, cause disruption in certain industries heavily dependent on the linkage effects produced by these expenditures. In the event that exports do not take up the slack, growth could be constrained by a lack of demand.

3.16 Lastly, to the extent that the budget is brought into equilibrium by passing on some of the costs currently being absorbed in the deficits of the major funds, on to consumers and industrialists, higher government savings, could be counter-balanced by a decline in those of households and corporations. This phenomenon, labelled as Denison's Law has been encountered in the industrial economies.⁴⁷ That it might migrate to Korea is not beyond the realm of possibility.

3.17 Certain assumptions regarding growth rates, the pace of inflation through the mid eighties, the persistence of moderately high real deposit rates and the government's ability to raise its savings from 7.1% to 8.3% are needed to arrive at domestic saving rates of more than 28% in 1986. Whether they are adequate to fully cover gross domestic investment depends very much on the sectoral movements in fixed investment and the factors liable to determine the size of inventories.

Investment

3.18 Fixed investment has moved in a narrow range since 1980 (Table 3.1) but the trend after 1981 has been upward, as confidence has seeped back into the manufacturing sector with the upturn in profits and rates of capacity utilization. However, the pattern of investment in the eighties is quite different from the one observed in the second half of the seventies, a period during which Korea was racing to develop a base of heavy and chemical industries, the leading sectors of the current decade. In those years, a fifth of all fixed investment was in manufacturing. By 1982 the sector accounted for less than 14%. It was investment in dwellings, office buildings and infrastructure which took the lion's share in the lean recessionary years - over 62% in 1982 - but after nearly three years when capacity has remained stable in most major industries, an expansion of plant is very much in the cards. This is unlikely to take the form of a major surge as occurred in the seventies, when at the government's instigation and supported by an elastic supply of cheap credit, businessmen exploited scale economies to the full and built up an enormous volume of excess production capacity. The government's disengagement from a direct involvement in the planning of industrial ventures, limited credit availability, narrower profit margins and less exuberant expectations concerning export demand, have all tempered the desire to invest.

Table 3.1: GROSS DOMESTIC INVESTMENT: 1978-83
(as % of GNP)

	Gross domestic investment	Fixed capital formation	Change in stock
1978	31.2	30.8	0.4
1979	35.7	32.8	2.9
1980	31.2	31.9	-0.7
1981	29.2	28.9	0.3
1982	27.0	30.3	-3.3
1983	27.6	31.8	-4.2

Source: BOK.

3.19 An expansion of capacity in subsectors such as textiles, wood and paper products, non-metallic minerals (with the possible exception of cement for which domestic demand could remain strong), petrochemicals (excluding oil refining), whose share in manufacturing investment has been falling, is improbable. However, the expectations of growing demand for basic metals, transport equipment, machinery and consumer electronics, should serve as a spur to investment. And since the capital required for new facilities is substantial, manufacturing investment should regain some of its stature. But in the medium term at least, increased demand for resources from this sector, is unlikely to be offset by tumbling investment elsewhere. The money poured into housing and non-residential units will, if anything, grow still further. Most of the major infrastructure projects in areas such as urban and intercity transport, water supply, irrigation and energy, are so far advanced that a sudden cutback would make little sense. The projects whose postponement is noted in the revised Plan will have an effect on investment demand in the coming three years, but the full consequences will be felt only later in the decade.

3.20 From this reasoning it would seem that fixed investment may increase by between 1% and 1.5% of GNP mostly in the manufacturing sector, raising the total to as much as 32% in 1984-86. How this translates into gross investment depends on the movement in inventories, which is something of a puzzle. The national income accounts reveal that stocks of imported raw materials have been falling since 1980 and of manufactured products since 1981 (Table 3.1). The extent of decumulation is surprising as it is equal to between 3.3% and 4.2% of GNP in each of the last two years and should by now have brought inventories down to very low levels. There remains the possibility that the data on changes in inventories derived from the 1980 input-output matrix, annual imports and the consumption or export of goods, rather than sample surveys, is not a reliable guide. For instance, it could be that domestic savings are being underestimated and stocks have not actually been run down so much.

3.21 Since the magnitudes involved are very large and critical for arriving at a realistic estimate of the need for foreign savings, Korean inventory ratios based on stocks in the manufacturing sector, are compared with those of several other countries (Tables 3.2a and 3.2b). Unlike the inventory statistics in the national accounts, data for the manufacturing sector are reasonably reliable being drawn from extensive sample surveys conducted annually. What Table 3.3 shows is that the ratio of inventories to GNP during 1980 and 1981 (more recent information is unavailable) was not very different from that in other economies although well above the levels of Japan. However, the ratio with respect to manufacturing output was considerably below that of the other countries in the sample (Japan again being the exception). These comparisons suggest that although inventories were not excessive at the start of the eighties, there was room for economising. The statistics on imports shed a little more light (Table 3.4). Raw material imports rose substantially in 1981 but they declined in 1982 and registered a very small increase in 1983. They increased significantly in the first half of 1984. In real terms (Chart 3.2) imports of raw materials for domestic use increased very little over the level of 1980, a year during which the local economy was in the grip of a recession. Intermediate goods used in producing exports were a little higher in 1982 as compared with 1980 or 1978, but the growth was less than what might be expected given the rising volume of exports between 1980 and 1982 (11% p.a.).

3.22 Neither the intercountry comparison nor the import statistics can conclusively establish the validity of the inventory data in the national accounts, but the possibility that stocks fell considerably over the past two years cannot be excluded. At least two alternatives can be defined depending on whether or not the inventory data are treated as statistical anomalies. For the government's projected current account deficit of \$0.6 billion to \$1.0 billion to be realized with GNP growing 7.5-8.0%, either savings must rise by 6.5% of GNP (over 1983) by 1986; or inventories must be lowered at least 1.7% of GNP if savings increase by the projected 5%; or fixed investment must be cut by about 2%; or the efficiency of investment dramatically improved. A 2% (of GNP) increase in savings, a lowering of the ICOR and possibly a 3% cut in stocks could produce the same results.

3.23 The alternative possibility is to assume that stock decumulation actually occurred over the past three years and inventories can be reduced by no more than 0.5% of GNP in 1984. With fixed investment equal to 32% of GNP and domestic savings of 25.5%, foreign capital transfers amounting to 5.5% of GNP or about \$2.7 billion would be required to bridge the savings investment gap if a growth of 7.5-8.0% were sought.

3.24 In the government's version adjustment of inventories and increased domestic savings are decisive. The feasibility of the other projections rests partly on changes in domestic savings and stocks, but also on the availability of foreign capital and greater investment efficiency internally. There is undoubtedly some scope for mobilizing additional savings from foreign and domestic sources, enhancing allocative as well as technical efficiency, especially through a reform of the management system in public corporations, now being vigorously implemented, and raising the returns from the available capital stock by shifting demand towards the manufacturing sector, which has

**Table 3.2a: RATIO OF INVENTORIES TO GNP AND GROSS MANUFACTURING OUTPUT:
VARIOUS COUNTRIES**

	Stocks (A)	GNP (B)	Gross output (C)	A/B (GNP)	A/C (Output)
Sweden (bln kronor)					
1970	29.441	170.78	103.85	0.17	0.28
1972	30.281	203.29	116.41	0.15	0.26
1974	47.115	256.14	176.06	0.18	0.27
1976	68.517	339.05	208.33	0.20	0.33
1978	68.753	407.87	233.04	0.17	0.30
1980	87.744	518.45	308.02	0.17	0.28
Austria (bln schilling)					
1970	46.56	373.91	251.04	0.12	0.19
1972	52.13	476.84	310.47	0.11	0.17
1974	78.06	615.59	417.41	0.13	0.19
1976	86.01	719.70	463.92	0.12	0.19
1978	109.30	834.31	517.4	0.13	0.21
1980	-	987.66	-	-	-
Portugal (bln escudos)					
1970	-	178.2	74.93	-	-
1972	30.757	231.8	121.71	0.13	0.25
1974	57.198	341.7	203.01	0.17	0.28
1976	74.09	463.6	260.36	0.16	0.28
1978	136.46	765.8	469.74	0.18	0.29
1980	-	1,174.9	-	-	-
Japan (bln yen)					
1970	8,802	73.128	69,957	0.12	0.13
1972	9,300	92.313	81,009	0.10	0.11
1974	-	133,922	104,826	-	-
1976	19,243	165.695	147,946	0.12	0.13
1978	18,126	202,708	165,983	0.09	0.11
1980	24,458	235,834	217,066	0.10	0.11
Great Britain (bln pounds)					
1970	10.188	51.66	44.691	0.20	0.23
1972	11.228	64.00	51.031	0.18	0.22
1974	18.814	84.49	80.952	0.22	0.23
1976	25.252	125.91	112.210	0.20	0.23
1978	31.732	169.98	142.140	0.19	0.22
1980	36.599	225.91	163.913	0.16	0.22
1981	37.501	271.31	165.471	0.14	0.23

Source: Industrial Yearbook.

**Table 3.2b: RATIO OF INVENTORIES TO GNP
AND MANUFACTURING GROSS OUTPUT:
ASIAN COMPARATORS**

	Stocks (A)	GNP (B)	Gross output (C)	A/B (GNP)	A/C (Output)
Other East Asia /a					
(NT\$ million)					
1969					
Total	28,555.2	-	-	0.08	0.20
Materials and fuel	15,281.2	362,370.0	139,497.3	0.04	0.11
Finished goods and works in process	13,274	-	-	0.04	0.90
1974					
Total	142,033.8	-	-	0.24	0.28
Materials and fuel	85,812.4	588,459.0	512,035.2	0.15	0.17
Finished goods and works in process	56,221.4	-	-	0.90	0.11
1977					
Total	175,611.4	-	-	0.22	0.20
Materials and fuel	84,254.8	811,819.0	882,273.7	0.10	0.10
Finished goods and works in process	91,356.6	-	-	0.11	0.10
1979					
Total	315,740.5	-	-	0.27	0.22
Materials and fuel	219,038	1,164,473	1,462,534.5	0.19	0.15
Finished goods and works in process	96,702.5	-	-	0.08	0.07
1981					
Total	442,001.2	-	-	0.26	0.36
Materials and fuel	297,774.2	1,694,482.0	1,166,703.7	0.18	0.26
Finished goods and works in process	144,226.9	-	-	0.08	0.12
Singapore /b (\$ mln)					
1972					
Total	1,043.2	-	-	0.13	0.18
Materials and fuel	655.478	8,135.0	5,868.3	0.08	0.11
Finished goods and works in process	387.697	-	-	0.05	0.07
1974					
Total	2,398.2	-	-	0.20	0.17
Materials and fuel	1,538.4	12,255	14,214.6	0.13	0.11
Finished goods and works in process	859.7	-	-	0.07	0.06
1976					
Total	2,441.8	-	-	0.17	0.15
Materials and fuel	1,569.0	14,374	16,131.4	0.11	0.10
Finished goods and works in process	872.8	-	-	0.06	0.05
1978					
Total	2,677.6	-	-	0.15	0.13
Materials and fuel	1,714.9	17,462	20,467.9	0.10	0.08
Finished goods and works in process	962.6	-	-	0.05	0.05
1980					
Total	4,327.0	-	-	0.19	0.13
Materials and fuel	2,654.3	22,846	32,710.4	0.12	0.08
Finished goods and works in process	1,672.6	-	-	0.07	0.05
1981					
Total	4,277.6	-	-	0.16	0.11
Materials and fuel	2,512.4	26,390	37,559.7	0.10	0.07
Finished goods and works in process	1,765.2	-	-	0.06	0.03

/a Source: Ministry of Economic Affairs, Report on Industrial and Commerce Survey.

/b Source: Department of Statistics, Report on the Census of Industrial Production.

**Table 3.3: RATIO OF MANUFACTURING INVENTORIES TO GNP
AND MANUFACTURING GROSS OUTPUT: KOREA**

	Total	Finished products (A)	(A)+(B)	Semifinished goods & goods in process (B)	Raw material (C)	(C)+(D)	Fuel (D)	GNP (C.P.)	Gross output of manufacturing
1970									
Inventories	180,024.48	103,712.79/a	-	-	76,311.69/b	-	-	2,684,020	1,335,514.5
Ratio inventories									
On GNP	0.07	0.04	-	-	0.03	-	-		
On output	0.13	0.08	-	-	0.06	-	-		
1972									
Inventories	251,462.2	142,503.2/a	-	-	108,959/b	-	-	4,028,880	2,241,608
Ratio inventories									
On GNP	0.06	0.04	-	-	0.03	-	-		
On output	0.11	0.06	-	-	0.05	-	-		
1976									
Inventories	1,761,600.8	890,225.3/a	-	-	871,375.5/b	-	-	13,272,590	11,677,229.9
Ratio inventories									
On GNP	0.13	0.07	-	-	0.07	-	-		
On output	0.15	0.08	-	-	0.06	-	-		
1977									
Inventories	2,196,617.8	1,089,506.2/a	-	-	1,107,111.5	-	-	17,021,370	15,438,297.5
Ratio inventories									
On GNP	0.13	0.06	-	-	0.07	-	-		
On output	0.14	0.07	-	-	0.07	-	-		
1978									
Inventories	2,722,865	722,649	1,320,569	597,920	1,376,268	1,402,295	26,027	22,917,600	21,159,446
Ratio inventories									
On GNP	0.12	0.03	0.06	0.03	0.06	0.06	0.001		
On output	0.13	0.03	0.06	0.03	0.07	0.07	0.001		
1979									
Inventories	4,062,697	1,321,982	2,182,871	860,889	1,816,391	1,879,826	63,435	29,072,080	26,690,084
Ratio inventories									
On GNP	0.14	0.05	0.08	0.03	0.06	0.06	0.002		
On output	0.15	0.05	0.08	0.03	0.07	0.07	0.002		
1980									
Inventories	5,942,280	1,978,596	3,172,383	1,193,787	2,662,590	2,769,897	107,307	34,321,550	36,279,079
Ratio inventories									
On GNP	0.17	0.06	0.06	0.03	0.08	0.08	0.003		
On output	0.16	0.05	0.05	0.03	0.07	0.07	0.003		
1981									
Inventories	6,916,441	2,260,549	3,736,329	1,475,780	3,080,840	3,180,112	99,272	42,397,120	46,717,466
Ratio inventories									
On GNP	0.16	0.05	0.09	0.02	0.07	0.08	0.002		
On output	0.15	0.05	0.08	0.03	0.07	0.07	0.002		

/a This figures includes (A) + (B).

/b This figure includes (C) + (D).

Source: Report on Mining and Manufacturing Census, EPB

Table 3.4: KOREA'S IMPORTS, 1963-82
(Million US\$, current prices)

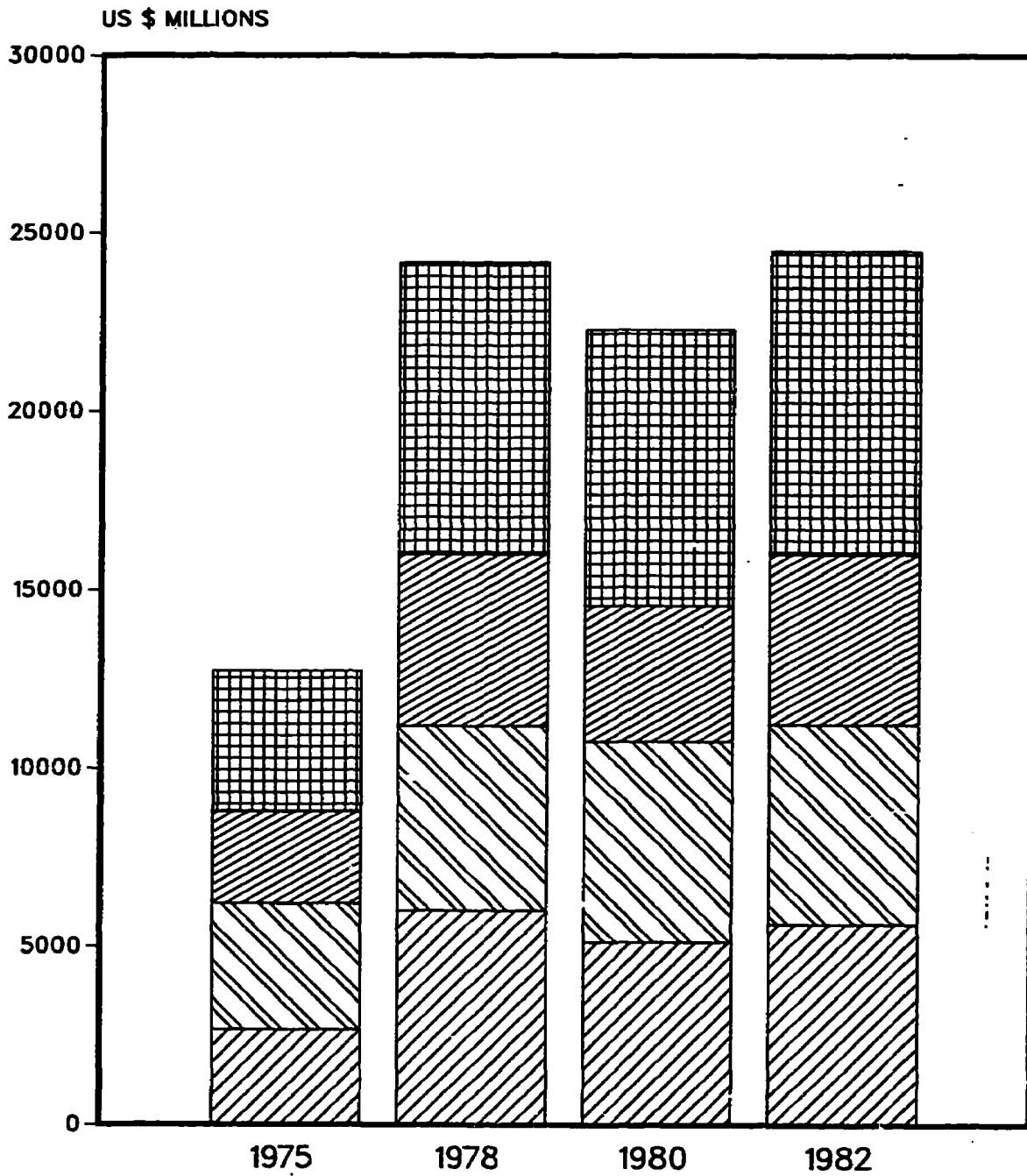
Year	Total	Capital goods	Crude oil	Raw materials for export use	Raw materials for domestic use & other imports
1963	560.3	115.0	32.2	-	412.5
1964	404.4	69.5	25.9	6.9	302.1
1965	463.4	60.0	28.9	10.4	364.1
1966	716.4	171.7	40.6	101.1	403.0
1967	996.2	310.2	59.4	135.2	491.4
1968	1,402.9	533.2	72.8	213.0	643.9
1969	1,823.6	593.2	107.6	297.2	825.6
1970	1,984.0	589.5	125.0	386.3	883.2
1971	2,394.3	685.4	174.0	506.0	1,028.9
1972	2,522.0	762.0	206.0	687.6	886.4
1973	4,240.3	1,156.8	277.0	1,555.5	1,251.0
1974	6,851.8	1,848.6	966.0	2,039.3	1,997.0
1975	7,274.4	1,909.2	1,271.2	1,452.0	2,642.0
1976	8,773.6	2,427.4	1,607.0	2,144.0	2,595.2
1977	10,810.5	3,008.1	1,926.0	2,427.0	3,449.4
1978	14,971.9	5,080.1	2,187.0	2,948.0	4,756.6
1979	20,338.6	6,314.0	3,100.0	3,444.0	7,480.6
1980	22,291.7	5,125.0	5,633.0	3,799.0	7,735.0
1981	26,131.4	6,158.2	7,375.7	4,587.3	9,010.2
1982	24,250.8	6,232.7	6,102.8	4,644.5	7,270.8
1983	26,192.2	7,814.7	5,576.7	4,801.7	7,999.1

Source: Economic Planning Board, Major Statistics of Korean Economy, 1983.

⋮

Chart 3.2

KOREA: COMPOSITION OF MERCHANDISE IMPORTS (1980 CONSTANT PRICES)



- INT. GOODS/DOMESTIC
- INT. GOODS/EXPORT
- CRUDE OIL
- CAPITAL GOODS

the advantage of a relatively low ICOR (Annex 1, Table 3.10) and where excess capacity still exists. While

Table 3.5: CHANGES IN STOCKS: 1980-83
(W million, constant 1980 prices)

	1980	1981	1982	1983
Change in Stocks	243.8	411.1	-493.8	-919.1
Agriculture products	-678.3	771.5	119.1	439.2
Mineral products	52.3	54.8	11.1	-24.8
Manufactured products	735.8	-148.3	-216.0	-279.5
Imported raw materials	-353.6	-266.9	-488.0	-1,054.1

Source: BOK.

matters pertaining to technical efficiency and demand shifting are explored in later chapters, the degree to which extra savings can be obtained and allocative efficiency advanced can be grasped by analyzing the factors governing capital flows from abroad and the state of financial intermediation.

Prospects for Foreign Borrowing

3.25 On grounds of economic performance and management capability Korea should be well placed to borrow in the international market. The various debt ratios, which provide additional measures of creditworthiness, improved in 1983 and are far below those of the Latin American countries (Table 3.6).

Table 3.6: EXTERNAL DEBT RATIOS

	1978	1979	1980	1981	1982	1983p
Stock of external debt (US\$ billions)	14.9	20.5	27.4	32.5	37.3	40.1
External debt/GNP (%)	29.8	31.8	45.7	44.8	52.7	53.5
External debt/exports of goods and services (%)	115.4	105.1	121.2	119.1	131.3	132.8
MLT debt service ratio (%)	12.4	13.6	13.3	13.9	15.9	15.4
<u>Total Debt Service</u> <u>Ratio /a (%)</u>	<u>13.6</u>	<u>16.0</u>	<u>18.5</u>	<u>20.4</u>	<u>21.0</u>	<u>19.3</u>

/a Includes short-term interest, and interest and amortization on MLT debt.

Source: Annex 2, Statistical Appendix, Tables 5.1-5.3.

Less encouraging is the size of the total outstanding debt which amounted to \$40.1 billion at the end of 1983 (54% of GNP). Reserves of \$6.5 billion (January 1984) equal to 2.3 months of imports are a second weak point. But the Government's strategy of lengthening the maturity structure of its external borrowing has pushed short term debts to \$12.2 billion or less than a third of total borrowing and they should decline further in the course of 1984. During 1983, Korea's gross borrowing reached \$5.7 billion. Given that amortization payments will range between \$2.5 billion and \$3.0 billion over the next three years, the Government's objective that the current account should be in balance by 1986 would require gross borrowing in the region of \$6.0 billion. As indicated in Chapter I, international capital markets may be less receptive to the demands of the NICs, in the mid-eighties but with the creditworthiness criteria in its favor, Korea should be able to raise these amounts. Under the alternative set of projections, maintenance of growth would require higher capital inflows. Major banks, most of which have reached their exposure limits on Korea, can be expected to revise their lending ceilings upwards in line with the increase in their capital base if the country's economic performance matches expectations, but finding more than say \$1.0 billion of additional foreign capital to finance balance of payments deficits might be an uphill task.

Financial Intermediation, Savings and Allocative Efficiency

3.26 Over the past decade the pattern of intersectoral resource transfers has been the following: The corporate sector and as of 1981 the government as well, have been net borrowers from the household sector with corporate borrowings being much larger than those of the government.⁵⁷ Corporate savings have been relatively stable throughout and the scale of the sector's demands has been a function of changes in investment. Although the household sector has consistently remained a net lender, fluctuations in household savings have been reflected in the volume of resources transferred to other parts of the economy and influenced the extent to which foreign borrowing has been necessary; (Table 3.7).

3.27 From the macro-economic angle, three questions are of the greatest interest:

- (a) to what extent might private savings be enlarged by policies which multiply the range of financial instruments and increase the return on these assets;
- (b) is the intersectoral transfer of resources being hindered by the unavailability of certain types of borrowing instruments and, therefore, should efforts be made to further develop certain segments of the capital market;
- (c) could allocative efficiency be advanced by a change in the pricing structure of capital and by increasing the autonomy of financial institutions.

Table 3.7: NET LENDING BALANCES BY SECTOR: 1978-1983
(as % of GNP)

	Private Sector				Government Sector			Foreign sector/a
	Savings		Invest- ment	NL	Savings	Invest- ment	NL	NL /b
	HH	C						
1978	10.0	9.9	25.6	-5.7	6.5	5.5	1.0	3.3
1979	9.7	9.7	29.1	-9.7	7.2	6.3	0.9	7.6
1980	5.5	8.2	24.6	-10.9	6.2	6.9	0.7	10.2
1981	4.6	8.3	20.9	-8.0	6.7	7.5	-0.8	7.9
1982	6.6	9.6	11.0	-2.8	6.2	7.6	-1.4	4.6
1983	7.0	10.1	n.a.	n.a.	7.1	n.a.	n.a.	3.5

/a Foreign sector includes net current transfers from the ROW and net borrowings from the ROW.

/b The sum of net lending across sectors does not equal zero due to a statistical discrepancy.

HH: Household sector.

NL: Net Lending (S-I).

C : Corporate Sector.

Source: Economic Statistics Yearbook, BOK, 1983; and Korean authorities.

Financial Instruments, Interest Rates and Savings

3.28 Econometric analysis of savings behavior identifies four variables with some explanatory power - the level of income, its growth, the rate of inflation and interest rates (Box 3.1). If we take the income level and the growth rate as given, only inflation and interest rates remain. The positive relation between inflation and savings is a trifle suspicious and probably reflects the "inflation tax" imposed by the government in the seventies so as to raise the supply of investible funds. In the current policy environment, the use of monetary policy to accelerate the increase in prices and thereby transfer resources to the public sector is ruled out, leaving only interest rates and possibly the supply of financial instruments under the control of policy makers.

3.29 The responsiveness of savings to interest rates is a vexing question, much debated and still a long way from being resolved.⁶⁷ Theory is equivocal on this score. Raising interest rates will have an income as well as a substitution effect. If the latter dominates, people will prefer to save more of their income so as to enjoy the benefit of larger earnings in the next period. If the former is more important present consumption would increase, because future incomes have been augmented by a greater return on current

savings. Even if savings are increased, following a change in interest rates, this need not imply an irreversible upward shift in savings behavior. As long as household patterns of savings, decumulation in later years and bequests for children, remain unaltered, fluctuations in rates can only lead to transitory effects. The relationship between savings and one year time deposit rates (used as a proxy for interest) is statistically significant over the period 1965-82, and quite sizeable, but an increase in the average real deposit rates of 2 percentage points will only raise savings an extra 0.6% of GNP.

3.30 This is one avenue through which the domestic resource base might be enlarged. Another, which promises a gain in financial if not real savings, suggests that higher interest rates can stimulate the demand for financial assets and through this means, enlarge the total resources to which companies can gain access. A recent cross-section study shows that high real interest rates are correlated with a faster increase in financial assets (time and savings deposits) which in turn is associated with a more rapid growth of GDP.⁷⁹ The argument for financial savings assumes that in the absence of intermediation, through a formal financial system, some percentage of savings could be funnelled into unproductive assets. To optimally utilize the supply of savings, the mobilizing and allocative functions of financial markets must be employed to the fullest extent.

3.31 Unlike the South Asian countries where a portion of savings might be invested in jewelry and precious metals, there is scant evidence that Korea's economically very aware populace is not deriving the maximum benefit from its savings. A priori, therefore, the possibility of engineering a significant growth in financial savings by way of interest rate policy would appear to be limited. At the same time it must be noted that Korean domestic savings are appreciably lower than those of Japan in the sixties and some of its Asian competitors with broadly similar economic characteristics and a comparable history of development. The difference in the ratio of M2 to GNP between Korea and some of these countries is also notable. It has been argued that truncating the size of M2 in relation to GNP can reduce the flow of loanable funds in the economy.⁸⁰ The ratio for Korea rose from 0.33 in 1971 to 0.38 in 1982, whereas for Japan it was 0.74 in 1970 and while Singapore had reached 0.86 by 1982. Against this it can be claimed that the M2/GNP does not reflect the expansion of Korean non bank financial intermediaries, where growth in recent years has far outstripped the commercial banks. As shown in Table 3.8 the ratio of financial sector liabilities to nominal GNP increased from 34% in 1975 to 60% in 1983. Thus interest rate controls, somewhat more stringent in Korea as compared to the other industrial nations, diverted savings towards other financial intermediaries. If the informal sector which encompasses a large market for promissory notes⁹⁷ - variously estimated at being 20-25% of M1 is included, Korean financial ratios do not lag so very far behind those of its competitors.

3.32 Nonetheless, there lingers the possibility that commercial banks, which are uniquely placed in a country such as Korea both in mobilizing savings and to a degree, evaluating alternative investment possibilities have been at a disadvantage because of ceilings on deposits and lending. In the past two years, their growth has also been affected by the tight monetary policy which is one of the instruments used by the Government to check

Table 3.8: KOREA: SIZE AND STRUCTURE OF FINANCIAL INSTITUTIONS, 1970-83 /a

	Average 1970-74	1975	1976	1977	1978	1979	1980	1981	1982	1983
Banking system/GNP	30.3	28.0	26.6	28.5	29.4	29.4	31.4	32.3	36.5	38.9
Banking system/Nonagri- cultural GNP	41.0	37.2	37.0	37.0	37.9	37.0	37.5	39.4	44.0	46.5
Banking system/financial sector /b	85.3	82.1	81.3	80.4	79.7	76.1	73.6	69.3	65.8	65.0
Nationwide commercial banks/ banking system	84.6	78.5	82.3	82.4	82.7	82.6	82.8	83.5	82.6	81.0
Financial sector /b/GNP	35.5	34.1	32.7	35.4	38.6	38.6	42.7	46.6	55.5	59.8
Financial sector /b/Non- agricultural GNP	48.1	45.3	45.5	46.0	47.3	48.6	51.0	56.9	66.9	71.5

/a Domestic liabilities of financial institutions.

/b Includes banking system, development banks, trust accounts, insurance companies, investment finance companies, and mutual savings and finance companies.

Source: Bank of Korea, Economic Statistics Yearbook.

inflationary pressures that have been endemic for over two decades. A portion of the income that might have been channeled into the banks has instead been consumed (or held in non-productive assets), even though other financial instruments were available, because savers were not sufficiently sophisticated to use them or were dissuaded by the transaction costs involved. The ratio of the liabilities of the banking system to nominal GNP went from 29% in 1978 to nearly 40% in 1983 (Table 3.4), but the effect of this on total funds raised by the deposit money banks (DMB) was marginal. During this period, domestic deposits funded less than half of the intermediation performed by the DMB's (compared to 80% in Thailand, to 65% in Malaysia and to 80% in Japan). Because of the high demand for loans - a demand not fully reflected by the controlled interest rate structure - and the limited supply of domestic deposits, foreign borrowing and the public sector had to make up for the shortfall. The former supplied about 28% of the DMB's funds, (compared to 7% for Thailand, 8% for Malaysia and 13% for Japan) while the latter, including the Bank of Korea provided 19% (whereas in Thailand the amount was 9% and 6% in Malaysia).

3.33 It can be argued that recent financial policies, which have placed ceilings on deposit and loan rates, restricted the growth of M2 and discriminated in favor of the non-bank financial intermediaries and the stock market, may have slowed the growth in financial savings, because of the limited substitutability between different types of financial instruments at early stages of financial development.^{10/} For example, in Japan almost 65% of all financial savings during the early seventies took the form of bank and

postal savings deposits as compared to 50% in Korea in 1982 (Table 3.9). Lifting the average deposit rates at commercial banks might retrieve whatever ground that has been lost, although these changes must be introduced with a wary eye towards the consequences of more expensive borrowing costs on lending rates and investment. The deposit rate structure emplaced in January 1984 ^{11/} has resulted in a decline in the weighted average deposit rates, and some widening of bank spreads, but the cut in short term deposit rates also impelled savers to shift resources out of the banking system, thereby affecting the growth of the bank's deposit base. An adjustment of the rate structure in other financial markets or further tinkering with the bank deposit rates may be necessary to restore stability.

Table 3.9: COMPOSITION OF HOUSEHOLDS' FINANCIAL ASSETS (%)

	Korea				Japan			USA
	1971	1975	1980	1982/a	1971	1975	1981/b	1982
Currency and demand deposit	18.6	19.6	12.5	9.5	19.0	17.8	12.0	5.7
Time deposits	36.7	37.9	38.1	41.7	46.2	50.6	54.4	27.3
Trust	6.5	3.5	4.3	4.0	5.8	5.9	6.3	-
Insurance	3.0	3.6	5.3	7.0	13.3	12.7	14.1	21.9
Securities	21.9	28.3	31.3	30.4	14.1	11.6	12.2	39.4
Others	13.3	7.1	8.5	7.4	1.6	1.4	1.0	5.7

/a Preliminary estimates.

/b Fiscal year: April 1980-March 1981.

Source: Korea; Economic Statistics Yearbook, BOK, Japan, The Bank of Japan, The United States, FLOW of Funds Division, Federal Reserve Board.

Financial Instruments and Intersectoral Resource Transfer

3.34 As the corporate sector will for some time to come, borrow heavily from private households, financial channels which efficiently transfer surplus household savings to firms, must be deepened. Conventional thinking leans towards a highly diversified capital market with richly variegated securities and equity markets rubbing shoulders with the commercial banks and other more specialized financial institutions. This approach is colored by the structure that has emerged in the US, a structure strongly influenced by the very size of the market and carrying the imprint of protective regulations introduced after the banking collapse of the 1930s, as well as other regulations favoring particular thrift institutions.^{12/} In the US, equity financing has traditionally bulked quite large and the share of commercial and investment banks correspondingly smaller, in part because of the restrictions imposed on

banks. The share of other kinds of securities, many of which evolved through efforts at circumventing multifarious regulations, is also larger when compared with either the European countries or Japan.

3.35 The blueprint employed in the development of the Korean financial system has drawn heavily on the US model. A variety of incentives were used for instance, to create markets for equities and debentures,^{13/} while markets for commercial paper, promissory notes, the resale of bonds and interbank transactions have matured quickly because of the government's selective credit and interest rate policies regulating the operations of the commercial banks. Thus, as is apparent from Table 3.10, corporate borrowing in Korea although not as diversified as in the US is much less bank oriented than in either Japan, France or Germany, countries with an enviable record of growth and financial stability.

Table 3.10: LIABILITIES OF THE CORPORATE SECTOR: VARIOUS COUNTRIES

	Korea/ <u>a</u>	Japan/ <u>b</u>	United States/ <u>c</u>	Germany/ <u>d</u>	France/ <u>e</u>
Banking System Loans	53.8	70.6	29.1	56.7	69.6
Securities	40.1	10.5	48.2	6.1	30.4
Other	6.1	18.9	22.7	37.2	-

/a Data are for 1982. Economic Statistics Yearbook, BOK 1983.

/b Data are for 1981. Economic Statistics Yearbook of Japan, 1982.

/c Data are for 1982. Federal Reserve Board, Flow of Funds Division.

/d Data are for 1982. Monthly Report of Deutsche Bundesbank.

/e Data are for 1982. Bulletin of Banque de France.

3.36 No doubt there are advantages in raising funds by floating shares, since the debt equity ratio is the principal indicator of corporate riskiness, but students of the Japanese financial system have argued persuasively that, relying heavily on equity funding, shortens planning horizons and leads to managerial preoccupation with short-run profitability.^{14/} Security financing also involves relatively high transaction costs which often places it beyond the reach of smaller firms. As small businesses have an important role to play in Korean industry (see Chapter 5 and 6) and access to the securities markets is limited to larger companies, the broadening of the Korean financial market may in fact have diverted funds more towards the large conglomerates and thus paradoxically lowered the efficiency of capital use while slowing the process of financialization.

3.37 Financial modernization in Korea has meant: (i) the growth of short-term investment finance companies (SIFCs); (ii) an enlargement of the market for bonds; (iii) the creation of a stock market; and (iv) the expansion

of trade credit. The SIFCs, which were established in 1972 to provide alternative channels for funds that tended to gravitate towards the informal money market, have dramatically increased their share of the total assets of financial intermediaries, from 4.3% in 1975 to 10.7% in 1982. By offering deposit rates higher than those of the commercial banks they have until recently been more effective in attracting savings. Further, the SIFCs have benefited from the growth of the market for commercial paper, bills and promissory notes, which was off-limits to the banks until 1982. Unlike the banks, however, the SIFCs orient their activities towards a selected group of customers, especially those that do business with the corporation(s) controlling the finance company.

3.38 The most significant development in the bond market over the past decade has been the growing popularity of primary corporate bonds. The amount outstanding grew at an annual compound rate of 77% between 1975 and 1982, raising their share to 85% of the bond market. By 1982 almost 97% of corporate bonds carried bank guarantees and served as substitutes for loans which banks were unable to extend to their favored customers because of the slow growth in their deposits. Rather than being financial instruments distinct from the rest, corporate bonds serve as an indirect form of bank financing for a certain class of borrowers.

3.39 The secondary bond market is also quite different from its counterparts in the advanced countries. Bonds worth Won 6,247 billion, which is almost three times the amount of corporate bonds issued in that year, were traded in this market in 1982, but the entire secondary market consists of sales and purchase of bonds under repurchase agreements, and not of outright sale as is typical elsewhere. The nature of this transaction is therefore basically like a loan against the collateral of bonds (Annex 3, Tables 1.7-1.9). The period of this "loan", or the period between the initial and the reverse transaction was approximately one month during 1977-80 and varying between one and three months in later periods. Similarly, the period of the "loan" repo transactions averaged four months in 1982-83. In other words, these were fairly short term "loans" (Annex 3, Table 1.11).

3.40 The stock market flourished briefly in the late 70s, but stocks have attracted fewer investors since. As a proportion of total securities their share plummeted from 76.5% in 1975 to 40% in 1982. As the composite stock price index in 1982 was 127.3 compared to 89.7 in 1975, the fall in proportion reflects a relative decline in the importance of the stock market. Small investors have been discouraged by a number of factors. Transaction costs are high. The thinness of the market for particular equities or subgroups of equities means that the quantity bought or sold is as important as the price. So is the speed with which a sale is made. Since share prices are highly variable, the value of stockholdings is too uncertain for them to serve as a convenient financial vehicle for most savers. An examination of Table 3.11 shows that the average rate of return of equity for the period 1976 to 1982 was 22.8% while that of corporate bonds was 20.9%. On the other hand, the variance in stock yields was 67.4% as against 21.7% for bonds. A rate of return premium of 1.9% seems totally inadequate to compensate for the much higher variance and may explain the decline in the total number of shareholders from 1 million in 1978 to 680 thousand in 1982.^{15/} As minority

shareholders have withdrawn from the market share ownership is being concentrated in the hands of those with over 100,000 shares, since the thinness and volatility of the stock market makes the control over the financial decisions of firms a critical factor. While the demand for shares (also the size of public offerings is very small) comes increasingly from either institutional investors or individuals in a position to direct the activities of firms, the companies successful in raising funds and whose shares are most actively traded, comprise some 40 of the large diversified conglomerates. In 1982, the shares of these firms were responsible for 71% of total sales even though 327 companies were listed on the stock exchange.

Table 3.11: RATES OF RETURN IN THE EQUITY MARKET

	Equity Market			Corporate Bank Yields
	PE/PE1	Yield	Rate of Return	
1974	-	-	-	-
1975	-	15.0	-	-
1976	1.16	14.0	30.0	20.4
1977	1.32	14.4	46.0	20.1
1978	1.06	19.8	26.0	21.1
1979	0.82	15.7	-23.0	26.7
1980	0.90	23.9	13.9	30.1
1981	0.97	24.5	21.5	24.4
1982	0.95	16.3	11.3	16.8
1983	-	-	-	14.2
Mean			22.8	20.9
Standard Deviation			15.38	4.53
Variance			67.4	21.7

Source: Securities Statistics Year Book, Korea Stock Exchange.

3.41 An important counterpart of the decline in the relative importance of bank loans is the growth in the relative size of trade credits. As a proportion of total loans this rose, from 15% in 1975 to 21% in 1982 (Annex 3, Table 1.6). An examination of the corporate sectors' asset portfolio indicates that as a proportion of total liabilities, trade credit shows no clear trend. As a share of total assets, it virtually doubled from 21% in 1975 to 40% in 1982. Meanwhile the asset portfolios of households (including firms) reveal an inverse trend: Trade credit as a proportion of liabilities increased from 2% in 1975 to 17% in 1982.

3.42 What the above suggests is that, by circumscribing the role of the banks and by attempting to multiply the channels for transferring resources between sectors, the government might have inadvertently reduced the volume of financial savings (discussed earlier), ^{16/} biased capital transfers in favor of large enterprises that are not always the most efficient users of these

funds and brought about a greater compartmentalization of the financial markets with particular institutions or financial instruments serving the needs of a narrow clientele. Policies to remedy the situation might take two forms. One, as stated above, there appears to be a case for easing restrictions on bank interest rates and financial operations on grounds of both savings mobilization and allocation. Second, the financial channels created need to be modernized and made more efficient and accessible through the introduction of new electronic communication and data processing technology, stricter accounting standards and a lowering of equity brokerage fees and the fees charged for the underwriting of bonds.

Resource Allocation by Banks

3.43 Changes in the mode of financial intermediation which strengthen the investment function of the banks could benefit allocative efficiency in the medium term by modifying the mix of industrial borrowers. But allocative efficiency could also be raised further if banks adopt a much more discriminating attitude towards their borrowers. Currently, the vast majority of commercial bank loans are to customers inherited from the days when directed lending to government favored industries was the rule. A significant proportion of their portfolios are comprised of nonperforming assets which further erode what until recently were very narrow earnings margins between loan and deposit rates.¹⁷⁷

3.44 As matters stand, the banks are confronted with three obstacles to their role as efficient allocators of capital: (i) they are compelled by convention and the fear of triggering bankruptcies to roll over and in fact to increase their loans to existing customers, which inhibits them from seeking new and more lucrative outlets for their funds; (ii) their low profitability (Table 3.12) which puts a premium on controlling personnel costs makes it difficult for them to attract professional staff of a high calibre and to conduct the analytical work that must buttress efficient lending operations; (iii) finally, they are constrained by interest ceilings and the precarious finances of some of their customers from using interest rates (differentiated according to risk class), commitment fees, and compensating balances to allocate their loans.

Table 3.12: KOREA: RATE OF RETURN ON ASSETS OF COMMERCIAL BANKS, 1974-82 /a

	1975	1976	1977	1978	1979	1980	1981	1982
Total	1.4	1.4	0.3	0.6	0.5	0.6	0.5	0.3
Nationwide commercial banks	1.3	1.4	0.2	0.5	0.4	0.4	0.4	0.1

/a Profits divided by assets of commercial banks.

Source: Bank of Korea, Economic Statistics Yearbook, 1983.

3.45 The answer of course, does not lie in wholesale abandonment of controls and the severing of long standing customer relationships. Any set of actions taken must be guided by the overarching macro-economic considerations and industrial policies and not just by the exigencies of the savings-investment gap, particularly when the modest gains in allocative efficiency that are possible will have only marginal effects on short-term ICORs. These financial reforms are discussed in Chapter 6 after trade and industrial concerns have been brought into the picture.

CHAPTER IV

KOREAN EXPORTS IN THE GLOBAL CONTEXT

4.01 World trading volume rose at an annual rate of 8.5% between 1963 and 1972 and almost 6% p.a. from 1973 until the end of the decade (Table 4.1). It was a phenomenon without precedence in the last two hundred years of international development. The burgeoning of world trade during these two decades arose from the coalescence of several factors. Technological change that greatly enlarged the productivity of existing resources and the range of production opportunities served as a spring board. A reaffirmation of faith in the benefits to be derived from free trade induced the industrial economies to take the lead in dismantling many of the impediments to trade; while the strongly held belief that their comparative advantage had shifted towards capital, technology and skill intensive products, encouraged the advanced countries to welcome light manufactures exported in profusion by the LDCs, even though some of their traditional industries were placed at a grave risk. Finally, the refinement of consumer wants and sensitivity to price and quality variations, that emerged side by side with increasing product differentiation and the decline in transport costs, brought about an enormous growth in intra-industry trade between countries with similar resource endowments and income levels.^{1/}

Table 4.1: VOLUME OF WORLD TRADE AVERAGE ANNUAL RATES OF GROWTH

	1963-72	1973-79	1980-82	1983
World Trade	8.5	5.9	1.3	1.0
Exports:				
Industrial countries	9.0	6.3	3.1	
Developing countries:				
Oil exporting countries	9.1	2.3	-12.7	
Non-oil developing countries	6.7	6.2	5.3	
- net oil exporters	5.3 ^{/a}	4.7	5.4	
- net oil importers:				
- major exporters of manufactures	11.8 ^{/b}	9.1	5.6	
- low income countries	5.5	3.2	2.2	
- other	6.7	2.9	4.3	

^{/a} 1968-72.

^{/b} Export earnings deflated by import prices.

Source: International Financial Statistics, IMF.

4.02 Those developing countries more richly endowed with natural resources, or skilled labor and entrepreneurial talent were quick to exploit this hospitable trading environment. In a matter of years a group of them, recently labelled as the newly industrialized countries (NICs), had become through dint of aggressive exporting, a major force in world trade.^{2/} In 1982 for instance, the NICs accounted for 10% of total manufactured exports (Table 4.2). Korea, which is a leading member of this group and the second largest exporter of manufactures among the NICs, alone claimed 16% of this trade.

Table 4.2: EXPORTS FROM NICs COMPARED WITH WORLD TRADE (1982)
(US\$ billions)

Singapore	20.79
Hong Kong	20.98
Korea	21.85
Other East Asia	22.20
Argentina	7.62
Brazil	20.17
Mexico	21.58
<u>Total</u>	<u>135.19</u>

Total exports NICs on total trade: 8%.

Total exports NICs on total manufacturing trade: 13%.

Total manufactured exports NICs on total manufactured world exports: 10%.

Source: International Financial Statistics, IMF (line 71..d).

4.03 Korean export performance has been extensively chronicled.^{3/} The deliberation and singlemindedness with which the government nurtured promising industries and supported their immensely successful efforts at penetrating overseas markets is familiar to all students of development. The purpose of this report is not to go over ground charted so ably by others, but to trace out the implications of past trends and economic changes in Korea's principal trading partners, for the future growth and composition of the country's exports. To try and discern, however dimly, the course of future trade is vital because it has an important bearing on the increase in Korea's GNP; it allows for a review of the current account targets from a different angle; and it can serve as an axis for industrial policy (discussed in the following chapter).

4.04 Projecting exports, never an easy matter, has of late become doubly difficult, because after two oil shocks and a prolonged spell of low export growth, there is a sense that the economic environment is changing. And as they shift, the trade winds, which fanned export led growth during the past two decades, could blow more fitfully.^{4/} While the increasing scarcity of natural resources has certainly dampened the economic climate, declining income elasticities for many goods in the OECD countries and the failure to

implement structural changes foreshadowed by the shift in dynamic comparative advantage, are equally to blame. Over the medium term, at least, countries such as Korea must continue to rely on the industrial economies to provide outlets for a very large proportion of their exports.^{5/}

4.05 In the world of the eighties political as much as economic forces have a hand in the direction, the content and the growth of trade.^{6/} Hence conventional approaches that project trade by assessing a country's factor supplies; or mechanically extrapolate past trends; or derive future demand functions for exports using the income elasticities of yesteryear; must of necessity be juxtaposed with the political opposition to unrestricted trade arising from unemployment in the West. This chapter is concerned principally with the traditional apparatus of trends, shares and elasticities, and deals only summarily with the protectionism growing out of the industrial malaise in the OECD nations. The implications of that are discussed more fully in Chapters 5 and 6.

Growth and Structure of Exports

4.06 Average yearly growth of exports (in nominal dollars) during the Korean Third Five Year Plan, which ended in 1976, was 45.5%. This had slowed to 20% in the Fourth Plan period, in response to weaker world demand and the much enlarged export base. At the end of 1981, total merchandise exports amounted to \$20.6 billion, 94% of which were manufactured goods (Table 4.3). As can be seen from Table 4.4 the leading sectors during these years were machinery, transport equipment, chemicals, and steel. The major exports of the early seventies - clothing, plywood, silk, toys, fresh fish and transistors - having been largely outclassed by foreign competitors. Exports

Table 4.3: KOREA EXPORTS
(US\$ millions)

Year	Total exports	Merchandise exports /a	Invisibles
1976	9,457	7,814	1,643
1978	17,161	12,711	4,450
1981	27,269	20,671	6,598
1982	28,355	20,879	7,476
1983	30,211	23,103	7,108

/a fob basis.

Source: Monthly Statistical Bulletin, BOK.

were considerably more diversified in 1981 than they had been a decade earlier with the share of the top five items declining from 58% down to 40%. The trend towards diversification has been continuing and by 1983, the structure of merchandise exports had even changed dramatically since 1978 (Chart 4.1).

Table 4.4 KOREA'S MAJOR EXPORT ITEMS RANKED BY SIZE
(In US\$ million)

1970			1975			1978			1981			Growth rate 1975-81 (%)
SITC	Item	Value	SITC	Item	Value	SITC	Item	Value	SITC	Item	Value	
841	Clothing	213.4	841	Clothing	1,131.6	841	Clothing	2,523.2	841	Clothing	3,732.2	18.6
899	Other mfg. goods	104.2	031	Fresh fish	321.9	735	Ships	800.2	735	Ships	1,405.5	35.8
631	Plywood	92.2	653	Woven textiles	271.7	653	Woven textiles	775.0	653	Woven textiles	1,267.6	28.1
261	Silk	38.5	729	Elec. mach. NES	242.2	851	Footwear	686.2	724	Telecomm. eqpt.	1,118.0	39.5
031	Fresh fish	37.7	631	Plywood	208.1	724	Telecomm. eqpt.	611.5	851	Footwear	1,023.6	28.5
729	Elec. mach.	32.9	651	Textile yarn	205.0	031	Fresh fish	562.5	031	Fresh fish	765.6	17.3
653	Woven textiles	27.5	851	Footwear	191.2	729	Elec. mach. NES	486.6	729	Elec. mach. NES	706.3	18.3
652	Cotton fabrics	26.4	724	Telecomm. eqpt.	138.0	631	Plywood	414.7	651	Textile yarn	568.2	20.0
283	Nonfer. base metal ore	24.7	735	Ships & boats	137.8	651	Textile yarn	337.6	674	Iron, steel plate, sheet	564.4	40.8
851	Footwear	17.2	061	Sugar & honey	116.7	674	Iron, steel plate, sheet	298.2	678	Iron, steel tubes, pipes	514.9	44.6
292	Crude veg. materials	14.6	899	Other mfg. goods	105.1	831	Travel goods	277.1	629	Rubber articles	482.3	34.7
054	Fresh veg.	14.5	332	Petroleum prod.	95.0	894	Toys, sporting goods	261.1	631	Plywood	395.2	8.0
651	Textile yarn	13.6	629	Rubber articles NES	90.3	629	Rubber articles	225.1	672	Iron, steel primary forms	390.3	53.8
121	Tobacco unmg.	13.4	893	Articles of plastics	86.6	891	Sound recorders	204.2	661	Cement	379.5	26.4
276	Other crude minerals	8.5	891	Sound recorders	83.2	678	Iron, steel tubes, pipes	172.7	894	Toys, sporting goods	365.2	29.9
655	Special textile products	7.7	831	Travel goods	79.4	661	Cement	167.6	831	Travel goods	344.3	23.6
674	Iron, steel plate, sheet	7.6	674	Iron, steel plate, sheet	74.3	561	Fertilizers	162.1	691	Structure & parts NES	328.4	82.3
561	Fertilizers	6.3	661	Cement	73.1	899	Other mfg. goods	143.2	731	Railway vehicles	319.2	83.2
724	Telecomm. eqpt.	5.8	894	Toys, sporting goods	69.0	734	Aircraft	133.3	673	Iron, steel shapes	290.4	47.1
734	Aircraft	5.2	121	Tobacco unmg.	66.3	691	Structure & parts NES	113.2	891	Sound recorders	273.8	17.7
Total Exports		835.2	Total Exports		5,081.0	Total Exports		12,710.6	Total Exports		21,253.8	34.2

- Notes: (1) Growth rate 1975-81 = annual compound growth rates between 1975 and 1981 for the items listed in 1981.
(2) SITC 629 Rubber articles NES mainly consists of rubber tires.
(3) SITC 724 Telecommunications equipment - TV, radios and electronic components.
(4) SITC 729 Electric machinery NES mainly consists of transistors, batteries.

Source: UN Trade Data (World Bank Trade System).

4.07 Diversification was also evident in the geographical arena. The US and Japan which had bought three-fourths of Korea's exports, took less than half while the European economies and the oil producers absorbed close to 20% (Table 4.5). Congruent with its relative resource endowment, the products

Table 4.5: TOTAL EXPORTS BY COUNTRY OF DESTINATION
(Top Five Destinations)

(unit = million US\$)

Rank	1979	1980	1981	1982	1983
1	USA 4,373.9 (29.0)	USA 4,606.6 (26.3)	USA 5,660.6 26.6)	USA 6,243.2 (28.6)	USA 8,245.4 (33.7)
2	Japan 3,353.0 (22.2)	Japan 3,039.4 (17.4)	Japan 3,502.8 (16.4)	Japan 3,388.1 (15.5)	Japan 3,403.5 (13.9)
3	W. Germany 845.3 (5.6)	Saudi Arabia 946.1 (5.4)	Africa 1,286.6 (6.1)	Saudi Arabia 1,125.4 (5.1)	Saudi Arabia 1,436.5 (5.8)
4	Saudi Arabia 704.2 (4.7)	W. Germany 875.5 (5.0)	Hong Kong 1,154.7 (5.4)	Africa 1,096.5 (5.0)	UK 1,005.2 (4.1)
5	UK 541.6 (3.6)	Hong Kong 823.3 (4.7)	Saudi Arabia 1,136.2 (5.3)	UK 1,102.6 (5.0)	Hong Kong <u>/a</u> 817.7 (3.3)

/a West Germany in 1983 is close to Hong Kong with US\$775.3 million and 3.2% of total Korean exports.

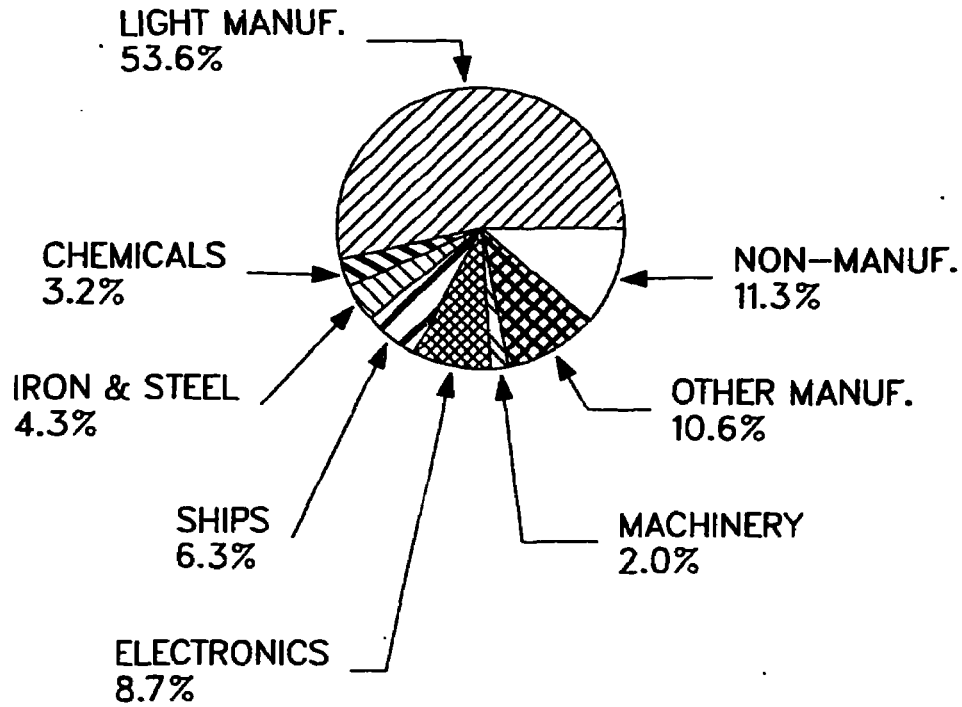
Source: Monthly Review, Korea Exchange Bank.

exported to the US, the EEC and Canada were of the labor-intensive kind - clothing, footwear, and telecommunications equipment assembled in the country. But to the Asian developing countries, Korea sold a range of goods, some of which, such as machinery, were both skill and capital intensive.

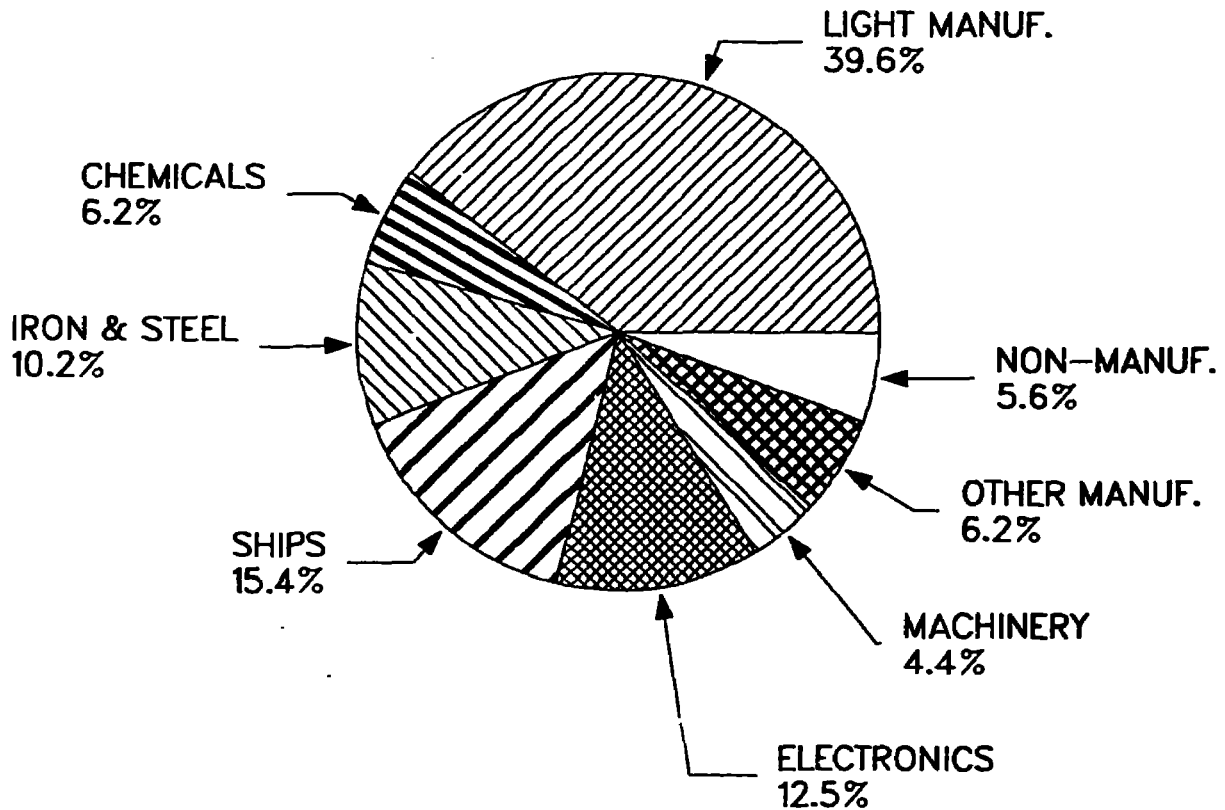
4.08 Further disaggregation by commodity and trading partners makes it possible to identify Korea's share in various export categories and compare the growth of Korea's exports with world trade and that of her competitors. Table 4.6 presents a ranking of the major items and the rate at which sales expanded between 1975 and 1981. Transport equipment, metal manufactures, iron and steel, and electrical machinery all performed remarkably well and Korea increased its share of world trade in these categories. But unlike some

KOREA: COMPOSITION OF MERCHANDISE EXPORTS

1978 - US\$ 12.7 BILLION



1983 - US\$ 23.1 BILLION



of its East Asian competitors, the country's export mix was not such that it derived full advantage from the differential growth rates registered by individual commodities in world trade. This can be seen from Table 4.6. For instance, Korea lagged behind in products such as office machines and sound recorders. Its competitors also did much better with machines for special industries, non-electric power machines, and plumbing and heating equipment.

4.09 Another way of evaluating the recent history of Korea's export activities is to list the fastest growing imports among Korea's major trading partners and compare them with its own major exports to these countries. To keep the list to a manageable length, only those commodities in which the traded value exceeded \$10 million were included in sales to the US and Canada, \$5 million was used as a cut-off point for Japan and the EEC and \$3 million for the East Asian nations. From Table 4.7 it is apparent that Korea's exports to North America roughly covered the high growth areas and that the country is industrially well-placed to increase its market share in other rapidly growing fields such as iron and steel forms, general machinery (especially metal working machinery, electric and nonelectric powered machines), switch gear, and railway vehicles.

4.10 The very high proportion of raw materials and intermediate goods relative to manufactured products in total Japanese imports, has limited the possibilities for increasing trade. Nevertheless, Korean producers were able to exploit market possibilities in iron and steel products, petroleum, chemicals and cement, now accounting for a large part of Japanese imports in these categories. But the lack of price competitiveness and low product quality have prevented Korean exporters from capitalizing on the demand for travel goods and fur clothing, among the few items where greater market penetration by Korean goods was possible (Table 4.8).

4.11 So far, exports to the EEC have comprised such traditional commodities as pottery, travel goods, fur clothing, footwear, toys and sporting goods (Table 4.9). But exports of machinery and transport equipment have picked up and they along with office machines are some of the items on which a future growth in sales to the EEC will rest, as markets for light manufactures are nibbled away by countries with wages much lower than what Korean workers earn. Machinery and steel are also the products with the brightest future prospects in the East Asian economies even though currently the most rapidly growing imports into these countries are consumer durables, footwear, clothing, sound recorders, travel goods, furniture and sporting goods. While Korea manufactures all these items, the high quality products being purchased by the East Asian countries are not especially sensitive to price competition and cannot be outclassed by Korean exports in non-price areas (Table 4.10).

4.12 This brief review of import trends in Korea's major markets through 1981, trends that might not persist further into the 1980s, indicates that in terms of products the best opportunities might be in iron and steel products, transport equipment and machinery while the severity of competition against the exports of light manufactures will continue to mount. What the above statistics further suggest is that the EEC, Japan, the East Asian countries and the Middle East, which between them take over two-thirds of Korea's sales abroad, may be less easily penetrated by exports in the medium term than North

Table 4.6 MAJOR EXPORT ITEMS OF KOREA AND COMPETITORS RANKED BY GROWTH RATES, 1975-81

SITC	Item	Fastest-growing items in Korea				Fastest-growing items in other Asian Competitors				
		Value in 1981 (\$ mln)	Korea's share in the world exports (%)	Growth rate 1975-81 (%)	Growth rate of world trade (%)	SITC	Item	Value in 1981 (\$ mln)	Growth rate 1975-81 (%)	Growth rate of world trade (%)
561	Fertilizer	188.4	2.5	238.71	14.20	521	Coal, petrochemicals	984.7	119.06	34.26
842	Fur, etc.	130.4	11.7	125.60	26.72	687	Tin	257.8	98.42	11.39
732	Road motor vehicle	150.8	0.1	88.64	15.22	431	Processed animal, veg. oil	105.5	74.72	16.82
731	Railway	319.2	7.8	83.15	14.5	931	Special trans.	1,610.4	72.77	19.88
691	Structures & parts, NES	328.4	3.8	82.33	15.27	734	Aircraft	154.7	52.47	23.06
725	Domestic elec. eqpt.	103.5	1.3	73.84	13.85	842	Fur, etc.	195.2	43.87	26.72
581	Plastic	149.9	0.6	66.49	18.27	725	Domestic elec. eqpt.	688.4	43.69	13.85
719	Nonelectrical machinery, NES	174.1	0.2	55.88	13.30	599	Chemicals, NES	110.6	37.24	20.27
672	Iron, steel primary forms	390.3	6.0	53.86	12.51	722	Electric power machinery	573.3	36.93	17.35
697	Base metal household eqpt.	201.0	7.0	50.63	18.85	864	Watches, clocks	1,382.9	36.02	18.09
734	Aircraft	152.8	0.6	49.06	23.06	719	Nonelectrical machinery	668.3	29.55	13.30
673	Iron, steel shapes	290.4	2.4	47.11	12.07	891	Sound recorders	432.3	28.36	24.86
678	Iron, steel tubes, pipes	514.9	2.7	44.57	10.45	422	Fixed veg. oil nonsoft	267.3	27.77	4.89
674	Iron, steel plate, sheet	564.4	3.1	40.84	11.46	581	Plastic	144.3	25.90	18.27
698	Metal mfg., NES	128.5	1.4	40.27	14.84	512	Organic chemicals	129.1	25.62	18.06
724	Telecomm. eqpt.	1,118.0	3.9	39.48	13.90	718	Machinery for special industry	359.9	24.60	15.69
641	Paper, paperboard	102.9	0.5	36.33	14.92	714	Office machinery	643.8	23.95	21.38
735	Ships, boats	1,405.5	7.4	35.80	-0.23	894	Toys, sporting goods	1,422.5	22.22	18.21
723	Elec. distributing machinery	100.1	1.8	35.26	15.70	332	Petroleum prod.	5,621.2	21.81	14.14
512	Organic chemicals	176.4	0.6	33.79	18.06	292	Crude veg. materials	115.7	21.58	12.92
693	Wire products	138.0	6.6	33.66	9.80	892	Printed matter	200.9	21.31	15.10
694	Steel, copper nails, nuts	102.7	3.9	32.96	12.70	698	Metal mfg., NES	213.5	21.09	14.84
656	Textile products, NES	160.0	5.4	31.46	13.61	711	Nonelectrical power machinery	180.8	20.16	15.52
894	Toys, sporting goods	365.2	5.2	29.93	18.21	812	Plumbing, heating equipment	151.8	20.13	16.32
851	Footwear	1,023.6	10.5	28.49	16.26	861	Instruments	362.3	20.06	17.17

Note: Only those items whose export values exceeded \$100 million in 1981 are included.

Source: UN Trade Data (World Bank Trade System).

Table 4.7 MAJOR IMPORT ITFMS RANKED BY GROWTH RATES, 1975-81
IMPORTERS: USA AND CANADA
EXPORTERS: KOREA; WORLD

Fastest-growing imports from Korea				1981 imports from Korea Total imports (%)	Fastest-growing imports from the world			
SITC	Item	Value in 1981 (\$ mln)	Growth rate (%)		SITC	Item	Value in 1981 (\$ mln)	Growth rate (%)
715	Metalworking machinery	16.4	233.08	0.7	285	Silver & platinum ores	638.7	40.68
681	Silver, platinum	11.8	194.50	0.9	672	Iron, steel primary form	449.5	37.16
122	Tobacco mfg.	48.8	88.03	15.4	734	Aircraft	4,343.6	35.31
725	Domestic elec. eqpt.	44.8	80.79	3.3	681	Silver, platinum	1,778.8	30.55
678	Iron, steel tubes, pipes	403.8	55.94	7.1	689	Nonferrous base metals	679.9	30.16
612	Leather mfg.	26.9	52.63	12.4	731	Railway vehicles	361.9	29.08
719	Nonelectrical machinery, NES	37.7	52.07	0.4	678	Iron, steel tubes, pipes	5,718.5	28.78
629	Rubber articles, NES	141.6	50.28	7.1	896	Works of art	2,149.0	28.00
698	Metal mfg, NES	43.8	42.68	2.3	122	Tobacco mfg.	317.2	27.36
722	Electric power machinery	17.0	42.47	0.6	715	Metalworking machinery	2,398.6	26.58
695	Tools	24.5	41.68	2.5	897	Gold, silverware, jewelry	1,085.8	26.56
512	Organic chemicals	33.8	41.00	0.9	861	Instruments	4,670.7	24.82
666	Pottery	28.7	40.00	3.1	697	Base metal household eqpt.	727.9	24.69
662	Clay	15.5	39.93	3.7	729	Electrical machinery, NES	8,118.3	24.20
693	Wire products	96.2	37.26	19.9	723	Elec. distributing machinery	693.7	23.86
653	Woven textiles	136.0	37.11	8.7	661	Cement	443.5	23.66
724	Telecomm. eqpt.	569.7	36.57	7.0	541	Medicinal prod.	1,296.5	23.23
842	Fur cloth	38.0	36.28	31.6	662	Clay	423.1	22.58
697	Base metal household eqpt.	68.6	36.20	9.4	831	Travel goods	945.1	22.53
694	Steel, copper nails, nuts	86.9	35.99	8.4	053	Preserved fruit	999.8	22.39

Notes: Imports from Korea - only those items whose import value exceeded \$10 million in 1981 are included. Total imports - only the items whose value exceeded \$250 million. Excluded is SITC 341 gas, which Korea exports on a decreasing level.

Source: UN Trade Data (World Bank Trade System).

Table 4.8: MAJOR IMPORT ITEMS RANKED BY GROWTH RATES, 1975-81

IMPORTER: JAPAN
EXPORTERS: KOREA; WORLD

Fastest-growing imports from Korea				1981 imports from Korea Total imports (%)	Fastest-growing imports from the world			
SITC	Item	Value in 1981 (\$ mln)	Growth rate (%)		SITC	Item	Value in 1981 (\$ mln)	Growth rate (%)
674	Iron, steel plate, sheet	176.7	644.28	70.7	674	Iron, steel plate, sheet	250.1	145.21
561	Fertilizers	6.1	401.22	2.4	672	Iron, steel primary forms	211.6	64.96
672	Iron, steel primary forms	178.8	309.17	84.5	284	Nonferrous metal scrap	501.8	41.71
686	Zinc	6.7	224.02	23.1	521	Coal, petro- chemicals	99.9	39.57
715	Metalworking machinery	6.7	120.13	2.9	735	Ships, boats	843.6	38.13
673	Iron, steel shapes	10.9	111.62	36.9	684	Aluminum	1,848.9	35.91
513	Inorg. elements, oxides, etc.	6.2	85.81	1.3	931	Special trans- actions	976.3	35.84
682	Copper	6.6	71.06	1.0	726	Electromedical x-ray eqpt.	142.0	34.69
053	Fruits	28.1	67.20	13.3	734	Aircraft	1,340.5	33.39
512	Organic chemi- cals	98.5	56.72	5.3	842	Fur clothing	202.5	31.49
655	Special tex- tiles	9.4	55.37	9.4	831	Travel goods	174.4	31.45
581	Plastic mater- ials	55.5	52.41	8.6	514	Other inorga- nic chemicals	178.9	31.25
514	Other inorga- nic chemicals	19.1	51.05	10.7	629	Rubber articles	149.3	29.27
714	Office mach.	14.7	43.79	1.4	661	Cement	88.0	28.78
667	Pearl, pre- cious stones	5.9	42.57	0.7	641	Paper & paper- board	409.5	28.58
521	Coal, petro- chemicals	54.6	39.35	54.7	581	Plastic mater- ials	643.9	27.84
661	Cement	50.2	35.89	57.0	513	Inorg. elements, oxides, etc.	490.2	27.84
641	Paper & pulp	13.9	35.08	3.4	689	Nonferrous basic metals	178.6	27.81
821	Furniture	15.4	31.50	6.3	053	Fruit	211.9	27.48
629	Rubber articles	11.9	28.83	8.0	512	Organic chemi- cals	1,847.0	27.37
892	Printed matter	14.3	28.80	7.4				
851	Footwear	102.8	27.85	33.5				
273	Stone, gravel	16.9	25.21	14.2				
931	Special trans- actions	20.4	25.05	2.1				
054	Fresh vegetables	69.8	23.74	12.8				

Notes: Imports from Korea - only those items whose import value exceeded \$5 million in 1981 are included. Total imports - only the items whose value exceeded \$100 million. But SITC 521 Coal and SITC 661 Cement are included because of large Korean shares in total Japanese imports.

Source: UN Trade Data (World Bank Trade System).

Table 4.9 MAJOR IMPORT ITEMS RANKED BY GROWTH RATES, 1975-81
IMPORTERS: EC (9 COUNTRIES)
EXPORTERS: KOREA; WORLD

Fastest-growing imports from Korea				1981 imports from Korea Total imports (%)	Fastest-growing imports from the world			
SITC	Item	Value in 1981 (\$ mln)	Growth rate (%)		SITC	Item	Value in 1981 (\$ mln)	Growth rate (%)
731	Railway vehicles	5.3	1,465.29	1.1	961	Coin, nongold	908.8	159.02
673	Iron, steel shapes	7.0	303.32	0.2	285	Silver & platinum ores	905.6	35.14
732	Road motor vehicles	12.4	227.58	0.04	734	Aircraft	8,976.6	31.82
666	Pottery	59.7	96.09	7.0	521	Coal, petrochemicals	737.8	29.25
693	Wire products	5.9	85.39	1.1	897	Gold, silverware, jewelry	1,091.6	26.77
654	Lace, ribbon	12.0	71.63	2.8	332	Petroleum prod.	34,343.0	25.63
897	Gold, silverware, jewelry	19.3	6.05	1.8	842	Fur clothing	813.3	24.17
697	Base metal household eqpt.	21.9	54.35	1.9	681	Silver, platinum	2,047.0	24.09
842	Fur clothing	80.4	51.64	9.9	689	Nonferrous base metals	935.8	23.32
719	Nonelectrical machinery, NES	6.4	48.89	0.03	891	Sound recorders	5,157.9	22.58
722	Electric power machinery	7.2	46.21	0.3	896	Works of art	1,286.1	22.40
831	Travel goods	113.5	45.43	11.0	894	Toys, sporting goods	3,170.7	21.48
851	Footwear	187.3	42.92	4.3	714	Office mach.	12,512.1	21.15
629	Rubber articles	32.7	39.89	0.9	831	Travel goods	1,031.1	21.10
724	Telecomm. eqpt.	189.2	38.40	2.4	122	Tobacco mfg.	1,228.9	21.09
893	Articles of plastic	10.3	36.98	0.3	862	Photo, cinema, supplies	2,686.1	20.81
894	Toys, sporting goods	87.8	34.99	2.8	666	Pottery	847.2	20.51
891	Sound recorders	88.1	31.99	1.7	684	Aluminum	4,566.1	20.09
864	Watches, clocks	22.7	31.46	1.4	553	Perfume	1,009.7	19.78
729	Electrical machinery, NES	54.8	26.06	0.4	893	Articles of plastic	3,484.8	19.61

Notes: Imports from Korea - only those items whose import value exceeded \$5 million in 1981 are included. Total imports - only the items whose value exceeded \$500 million.

Source: UN Trade Data (World Bank Trade System).

Table 6.10: MAJOR IMPORT ITEMS RANKED BY GROWTH RATES, 1975-81
IMPORTERS: OTHER ASIAN COMPETITORS
EXPORTERS: KOREA; WORLD

Fastest-growing imports from Korea				1981 imports from Korea Total imports (%)	Fastest-growing imports from the world			
SITC	Item	Value in 1981 (\$ mln)	Growth rate (%)		SITC	Item	Value in 1981 (\$ mln)	Growth rate (%)
951	War firearms	13.9	1,740.00	20.6	521	Coal, petro- chemicals	93.6	97.37
421	Fixed veg. oils, soft	5.6	1,559.51	5.4	951	War firearms	67.4	74.77
683	Nickel	7.9	866.36	12.5	911	Mail not class.	97.0	49.97
422	Fixed veg. oils, nonssoft	3.0	501.96	3.1	731	Railway vehi- cles	155.7	43.34
682	Copper	3.4	425.95	1.5	283	Nonferrous base metal ore	89.6	40.55
561	Fertilizers	68.8	352.16	19.0	733	Road vehicles, nccmotor	165.7	37.75
735	Ships, boats	7.9	169.92	1.0	851	Footwear	215.8	37.24
718	Mach. for spe- cial industries	6.3	113.64	0.5	897	Gold, silver- ware, jewelry	206.1	37.14
671	Pig iron	6.2	98.25	15.2	841	Clothing	1,136.9	37.07
697	Base metal household eqpt.	3.6	80.78	3.5	714	Office mach.	736.3	35.51
732	Road motor vehicles	6.4	77.89	0.3	891	Sound recorders	758.5	32.75
723	Elec. distribu- ting machinery	10.6	76.86	2.6	631	Veneers, ply- wood	235.2	31.83
672	Iron, steel primary forms	20.3	75.59	10.7	672	Iron, steel primary forms	190.3	29.89
061	Sugar & honey	225.6	68.86	31.6	831	Travel goods	169.1	29.02
719	Nonelectrical machines, NES	17.4	66.19	0.5	664	Glass	156.1	28.79
665	Glassware	3.6	60.74	3.5	821	Furniture	175.2	28.45
724	Telecomm. eqpt.	116.6	59.74	7.0	894	Toys, sporting goods	310.5	27.60
711	Power machinery	4.9	58.89	0.5	657	Floor cover	92.8	27.44
891	Sound recorders	17.0	54.12	2.2	84	Watches, clocks	1,592.1	27.34
581	Plastic mater- ials	23.8	53.88	2.0	725	Domestic elec. equipment	309.3	27.33
629	Rubber articles	9.5	47.35	6.2	662	Clay	200.6	27.33
864	Watches, clocks	116.2	45.97	7.3	697	Base metal household eqpt.	103.5	27.17
514	Other inorganic chemicals	4.8	45.69	1.8	663	Other nonmetal- mineral MFS	115.3	25.78
653	Woven textiles	41.1	45.56	21.1				
674	Iron, steel plate, sheet	94.7	44.22	9.3				

Notes: Imports from Korea - only those items whose import value exceeded \$3 million in 1981 are included. Total imports - only the items whose value exceeded \$50 million. Excluded from the list are the items that Korea hardly exports.

Source: UN Trade Data (World Bank Trade System).

America. In fact this has been borne out by the experience of the past two years.

4.13 During 1982 the volume of exports grew a mere 5.8%. In terms of value, they increased less than 4%. Much of the expansion resulted from the sudden surge in demand for ships, as shipping companies attempted to take advantage of very low prices to replace the less efficient vessels in their fleets. Exports of iron and steel products, machinery and footwear also rose but in lesser amounts, while sales of a whole range of other goods, including foodstuffs, textiles, leather products and plywood lumber declined. Trade revived smartly in 1983, with export volume growing 17% and the value of merchandise trade by 11%, to \$23.1 billion. But again, three categories of goods - ships, electronic goods, and footwear - were largely responsible for this striking performance. In terms of value, sales to each major trading region declined except North America, where the demand for Korean products expanded by over 30%. (Table 4.11).

4.14 For aggregate export volume to expand during two years when world trade decreased by an average of 1% p.a. is extraordinary, but it does not necessarily warrant revising current projections upwards. The unit price index for exports fell quite significantly during 1982-83 alongside the real effective exchange rate (the won depreciated 6% against the dollar in 1983). The index for the latter declined from 103.1 in the fourth quarter of 1982 to 93.4 at the end of 1983 (Statistical Annex Table A4.3). Demand in the U.S. being sensitive to the relative movements in import and domestic prices,^{8/} the sharp improvement in the competitiveness of Korean products enabled them to displace domestic goods and other imports. As export price adjustments tend to be matched very quickly by Korea's East Asian competitors, future export growth cannot be linked to past trends but instead must be gauged through the strengths and weaknesses of Korea's export drive and similar changes occurring in the economies of its trading partners.

Korea's Export Prospects: Theory and Practice

4.15 An analysis of past trading patterns suggests that as labor rich, export oriented countries progress towards industrial maturity, exports of raw materials and light manufactures give way to exports of standardized intermediate goods which in turn are later joined by exports of differentiated manufactures.^{9/} Some of the NICs, Korea among them, have attempted to telescope the process, moving in the space of a few years from Stage I to Stage III and preparing, in fact, to challenge the advanced countries in products such as consumer electronics, where the technology is still evolving. Behind this strategy was the realization that rising unit labor costs in the light industries were placing Korean producers at a disadvantage in international markets. A continuation of high export growth called for a change in the mix of manufactures, as did the desire to deepen the industrial base and raise domestic value added.

4.16 In its efforts to expand the exports of standardized commodities such as steel, chemicals, transport equipment, machinery, consumer durables and electronics, Korean firms have been aided by a number of factors. Government support, which included subsidized credit, reduced some of the

Table 4.11: GROWTH RATE OF EXPORTS BY MAJOR COMMODITIES

SITC code		1981-82	1982-83
	Food and live animals	-18.3	0.4 (+)
	Beverages and tobacco	7.1	-1.6 (-)
	Crude materials inedible except fuels	-3.2	6.0 (+)
	Mineral fuels, lubricants and related materials	79.6	87.9 (+)
	Chemicals	8.5	-0.2 (-)
	Manufactured goods by materials	-8.1	4.4 (+)
	Machinery and transport equipment	28.2	30.1 (+)
651	Textile yarn and thread	-12.6	9.6 (+)
652	Cotton fabrics woven	20.3	11.4 (-)
653-5	Textile fabrics	-11.3	6.5 (+)
8411	Clothing of textile fabrics	-3.7	-7.6 (-)
84144	Outer garments knitted	-10.1	-1.9 (+)
85	Footwear	12.7	6.7 (-)
672	Ingot of iron or steel	33.0	-10.8 (-)
674	Sheets of iron or steel	14.9	-13.7 (-)
7242	TV receivers	-24.1	80.4 (+)
7249	Telecommunication equipment	2.5	60.8 (+)
7321	Passenger motorcars	-30.2	79.8 (+)
7353-9	Ship and boats other than warship	100.6	22.4 (-)

Source: Monthly Statistical Bulletin, BOK

risks of establishing large capital intensive production units in the absence of assured markets. A labor force well endowed with the necessary industrial skills shortened the learning period. And fifteen years of intensive trading in light manufactures had created links with foreign markets, established the reputations of Korean firms and concentrated within large trading corporations a fund of experience which could be harnessed to the sale of new products. ¹⁰⁷

4.17 There were disadvantages, as well, in such an abrupt departure from traditional trading and industrial patterns. First the smallness of the economy militated against the realization of scale economies. If optimally sized plants were constructed, they had from the outset to depend upon their ability to sell abroad. Second, the limited sophistication of the domestic market has not allowed producers the latitude to launch, test and refine differentiated manufactures, in a protected environment, before venturing overseas. Third, Korea is only now beginning to accumulate sufficient reserves of scientific manpower to develop the research infrastructure needed to sustain competitiveness in quality and technology conscious, differentiated product markets. Lastly, whereas exports of light manufactures moved relatively unhindered into niches created by the decline of such production in the West, the sale of machinery, durables and electronics must compete head on with the still vigorous industries of the importing nations.

Future Market Conditions

4.18 Will the advantages Korea enjoys enable it to surmount the various hurdles? This will depend on the following.

- (a) the speed of growth in OECD countries and the length of business cycles;
- (b) import elasticities for advanced manufactures;
- (c) the volatility of product and process technologies in major industrial fields;
- (d) the future strategy of international corporations that have come to dominate production and technology of numerous important products;
- (e) the effects of automation on the future prospects of major subsectors in the industrial economies;
- (f) the direction of protectionist sentiments and the manner in which they influence imports into OECD countries from the small, East Asian economies.

4.19 Each of these comprises a large topic justifying an extended treatment. Space limitations allow only the salient features to be outlined here. Some additional points pertaining to individual subsectors are discussed in Chapters 5 and 6.

Growth in the OECD Countries:

4.20 As stated in Chapter I, OECD growth rates, that have been on a downward trend should average about 3.0-3.5% per annum, with world trade expanding at between 4 and 5%. While absolute growth rates are important from the perspective of Korean exporters even more important is the length of these cycles. Recent experience suggests that business oscillations have become shorter and choppier, an unfortunate development when the production of machinery and basic metals is highly capital intensive, and producers are forced to commit large amounts of capital on the expectation of sustained future demand. With Korean firms so heavily reliant on foreign markets, forecasts of the duration of trade cycles will critically determine the volume of capacity installed. If the risks are too high, investment is likely to be at levels just sufficient for immediate requirements, leaving scant room for exploiting the sudden emergence of market opportunities.

4.21 Such supply constraints, avoided thus far thanks to the "building ahead of demand" program in the seventies, loom in the future as excess capacity is being exhausted in several sectors - notably iron and steel products, and non-ferrous metals - and investment in new plant continues to be inhibited by low profits and uncertain expectations in all but the transport and electronics subsectors.

Import elasticities:

4.22 Korean exports were aided by the high import elasticities prevailing through the seventies. Projections in the revised Fifth Plan assume that these have remained substantially unchanged. This may be a doubtful presupposition. The stiffening of import restrictions in the OECD countries during the eighties is bound to depress market growth for exports from Korea. Declining income elasticities for such items as clothing and footwear, about a third of merchandise exports in 1983, will also take a toll. In the past, very high growth rates could be achieved through increased market penetration at the cost of domestic suppliers. Penetration at the rates of the seventies might no longer be a possibility both because of the defensive measures being taken by the importing countries as well as the fierceness of competition among exporters.

Technology:

4.23 Where a country is selling a standardized product based on stable technologies, the competition revolves mainly around price, with wage costs, managerial efficiency and newness of plant, often being the decisive factors. But consumer durables, electronics and the more advanced segments of the machinery industry are constantly being swept by technological change, which by shortening product cycles, makes innovativeness the key to export success. Korea, with its embryonic research capabilities, will for some time to come be poorly placed to challenge the leaders in the field. The bulk of its exports will, therefore, be in the relatively unsophisticated ends of the markets for TVs, other consumer electronics and machinery, where the OECD markets are fairly saturated and Korea does not enjoy a decisive edge over its many competitors among the NICs.

International Corporations

4.24 The cost and complexity of new production methods and technologies has increasingly begun to favor large vertically integrated corporations with worldwide operations. Not only do these companies control certain kinds of technology, but also the access to OECD markets as a result of special tariff regulations, their marketing networks and established clientele. Automobiles, consumer electronics and computers are some of the industries dominated by a few international concerns. For Korea to become a significant exporter of these goods, a development that would certainly secure its export prospects during the eighties, a strategy allowing Korean firms to collaborate with and participate in the global trading networks created by international corporations will have to be devised. The first such joint arrangement of significance is likely to be in automobiles, but even if it is consummated in the near future, 3-4 years could elapse before it has a sizeable influence on exports.

Automation

4.25 Advances in electronic technology have begun transforming the cost structure of manufacturing production. Many labor intensive assembly operations have been automated and computer assisted manufacturing (CAM) holds out the possibility of restoring the competitiveness of several important industries in the advanced economies that have been buffeted by exports from the NICs.^{11/} Textiles and garments, machine tools, consumer durables could be on the threshold of a new renaissance. Further, some assembly operations that have migrated to the East Asian countries may find their way back to the industrial economies as investment in the new technologies picks up.^{12/} In fact the negative effect of these production methods on the exports of the NICs could be twofold in character. Their assembly and processing industries could be curtailed. And the sophisticated nature of the new technologies might also limit their participation in the rapidly growing trade in electronic processors, machine tools and automated production machinery. Thus the technological changes brewing in the industrial sectors of the West, could, if reinforced by political fears of deindustrialization and the opportunities presented by ample reserves of unemployed labor, significantly alter trade patterns at considerable cost to countries such as Korea.

Protectionism

4.26 Earlier this was touched upon in the general context of import elasticities. It also poses a specific problem for Korea. The country is now a large exporter of goods such as textiles and footwear, which hurt certain politically well entrenched industries in the West. In other items, where its market share is small, the share of all the East Asian NICs which export a broadly similar mix of goods, taken together, is often not insignificant. As a consequence, attempts at stemming the tide of exports from East Asian NICs, viewed as a bloc, could also affect Korea's export performance in many of the lesser commodities in its trade basket.

A Summing-up

4.27 The above is a sobering catalog of reasons arguing against an excess of export optimism. At the very least it raises questions as to whether an export elasticity of 2.0 (with respect to growth of world trade) should remain the rule of thumb for projecting Korea's exports. There is a good chance that with Korea now firmly ensconced in the ranks of the major exporters, the longer term rate of growth may be in the region of 7-8%, a point to which we return in Chapter 6.

4.28 When Korea's export led growth is analyzed, attention is focussed primarily on merchandise trade. However, invisible earnings have grown from \$4.8 million in 1979 to \$7.3 billion in 1983, about 30% of merchandise exports, and are making a very substantial contribution to the total inflow of foreign exchange. More than two thirds are derived from overseas construction activities and shipping services, with lesser amounts from insurance and investment income.

Overseas Construction

4.29 Korean firms' experience with construction projects abroad, dates back to the time of the Vietnam war, but the extent of their involvement and the volume of earnings climbed to significant levels only after the first oil shock unleashed a construction boom in the Middle East. As of 1983, there were 59 firms engaged in overseas work (out of 509 registered companies) with 85% of the outstanding contracts, valued at \$20 billion (from a cumulative total of \$61.2 billion), concentrated in the Middle-East (Annex 1, Table A4.15).

4.30 From the heady days of the late 70s when Korean firms were winning new contracts worth close to \$14 billion (1979) per year, construction activity has begun to slacken, with new business of under \$10 billion being obtained in 1983 (Annex 3, Tables 7.2-7.3). In addition, net earnings from overseas construction have also been declining. There are several reasons for this with important implications for the medium-term. The decline in oil prices by plunging many countries of the Middle East into current account deficits, has weakened their appetites for construction activity, especially civil works such as roads and buildings. This has diminished the flow of contracts to Korean firms, whose speciality lay in the execution of such projects. The entry of Turkish, Thai and Filipino firms, with labour costs lower than those of Korean companies and the preference often given by Arab Governments to their own construction enterprises, means that business is now distributed over many more contenders. As competition has stiffened, Korean firms have seen their average rate of profit slip from 10% in 1978-79 to 5% in 1982, with gross profit to sales falling from 9.2% to 5.2%. Many companies are faced with serious cash flow problems, with the delay in obtaining payments only adding to their woes.^{13/}

4.31 The decreasing attractiveness of civil works and the diminished volume of business in that area, has induced companies to bid more actively for the construction of manufacturing plants requiring an appreciably higher level of engineering skills and technical competence, something that Korean firms are deficient in. Having in the past executed projects in collaboration

with foreign companies that provided all of the design and engineering services, the Koreans had limited opportunity to develop their own expertise in this area. The changing nature of contracts has made this into a significant handicap. Aside from interfering with their ability to obtain new business, the heightened complexity of construction activity also means that the companies can rely less on Korean suppliers of equipment and materials. Consequently induced commodity exports fell from 9.2% of contract value in 1979 to 5.2% in 1982.

4.32 If hostilities between Iran and Iraq cease and a peace can be negotiated between the warring Lebanese sects, construction demand which Korean firms are most suited to fulfill, could once again grow. Should these developments be long delayed, the Mid-East market will continue tightening. One way of maintaining earnings would be through geographical diversification into Africa and Southeast Asia. This is definitely rich with possibilities, but to make headway against Japanese and other foreign firms competing for what are very often quite sophisticated ventures, Korean companies will have to remedy five important shortcomings:

- (a) Although the capacity to do detailed engineering has increased, design and basic engineering skills remain primitive;
- (b) Increasingly governments are requiring firms to provide a portion of the financing, something that only the largest companies can offer. The many medium sized Korean operations are, therefore, at a disadvantage unless they are prepared to merge or to collaborate with each other;
- (c) Because of high turnover, companies have made little attempt to train their workers, unlike the Japanese, who consequently outclass them in this field;
- (d) Construction companies need to strengthen their backward linkages with suppliers of materials and equipment so as to improve quality and reliability, both of which are low and a major liability in implementing technologically advanced projects;
- (e) As Korean labor becomes more expensive firms have to depend on workers from the host country as well as from the Philippines, Sri Lanka and elsewhere. Managing these workers is a knack that the Japanese have perfected but Korean middle managers and foremen have still to learn.

4.33 Even though it recognises the scale of the problems, the government is projecting \$10 billion (at current prices) in new business in each of the next three years. It also sees net foreign exchange earnings rising to \$2.7 billion by 1986. This is within the bounds of possibility assuming an improvement in the Mid-East situation, but a lower estimate would seem more realistic. Net earnings will certainly benefit from the higher value added in projects recently contracted for, but the declining number of Korean workers engaged overseas (whose wages constitute 15% of the value of contracts) will tend to offset gains elsewhere. Instead of increasing, net earnings might

instead remain stable or even decline slightly over the coming years. To the extent that stock prices mirror the prospects of the construction companies, the drop in average share prices from W 7000 - W 8000 in 1978-79 to around the par value of W 600 - W 700 in 1983 - although paid-in capital rose 5-10 fold - is perhaps indicative of future business and profitability.

Shipping Services

4.34 Korean shipping lines owned 7 million Gross Registered Tons (GRT) in 1982, a fourfold increase over the 1975 level. Receipts from shipping services grew from \$317 million in 1975 to \$2.4 billion in 1982. Since Korea has a large supply of relatively low cost and well trained crews, with capable captains, plus an edge in maintenance and repair costs provided by excellent, local repair yards, earnings can be expected to rise in the future.^{14/} The 3.4 million GRT expansion in tonnage projected through 1986, should provide sufficient capacity to service the increase in domestic exports as well as foreign demand. How rapidly, earnings can be enlarged will depend on a restructuring of the industry and a revival of the world shipping market, that has been in a slump since 1980.

4.35 There are about 70 ocean going carriers operating 560 vessels under increasingly adverse circumstances. Although the tonnage transported rose 20% in 1982, export receipts were 0.2% lower, as the Maritime Index of freight rates declined to 195 (300 being the break even point for Korean companies). Losses of \$38 million in 1981 increased to \$140 million in 1982, with 50 companies pushed into the red by depressed rates and the excessive size of their fleets.^{15/}

4.36 The same medicine suggested for the overseas construction companies might also be effective in the shipping industry. Mergers between what are potentially the more viable companies would lessen cut-throat competition and eventually improve profitability.^{16/} Capital costs might also be held in check if Korean companies could, at least in the near term, continue buying second hand ships abroad on the generous terms offered, rather than having to purchase more newly built vessels from local yards.

4.37 It is expected that the world shipping glut should have passed by 1985-86 and a recovery of rates is being forecast. Hence, the upward trend in receipts from shipping might resume within a year or two, unless the orders now being placed by foreign as well as Korean ship owners, result in a prolongation of the capacity overhang.^{17/}

CHAPTER V

MANUFACTURING INDUSTRY AND EXPORT-LED GROWTH

5.01 The fortunes of exports and those of industry have been linked inextricably throughout Korean development. Exports provided a source of demand and loosened foreign exchange constraints on domestic growth, but it was the dynamism of the manufacturing sector, its ability to produce goods of the type demanded overseas at a reasonable price, which made them salable in foreign markets. The first phase of Korean industrialization was typical for a country in its circumstances. Poorly endowed with natural resources and capital, the economy's hopes rested on a labor force unusually well-educated for what was then a backward country. Some of the industries that flourished in the early period—textiles, plywood, toys, wigs and other light manufactures—remain a force in the economy. Others have gone into eclipse, priced out of the international arena by the upward drift of Korean wages.

5.02 Worried by the impending obsolescence of many labor intensive products, the Government, taking its cue from the Japanese strategy of the fifties and sixties, launched a second wave of heavy and chemical industries. By the late seventies, exports from the new subsectors had more than compensated for losses in other industries and carved out a leading role for themselves. In the early seventies, light manufactures yielded their export dominance to heavy industry (Chart 4.1). Korea now stands poised to make the transition from an economy drawing its strength from ample supplies of labour, to one whose industrial strength rests on such capital and skill intensive industries as machinery, durables, electronics and basic metals. But until well into the eighties both trading success and the vigour of the domestic economy will depend as much on the ability of textiles and footwear producers to retain their overseas markets as on the effectiveness with which machinery and electronics firms enlarge their share of world trade.

5.03 Currently seven manufacturing subsectors - textiles, footwear, steel, machinery, automobiles, shipbuilding and electronics, are responsible for 73% of total exports, 53% of employment in manufacturing (Table 5.1). Since they comprise Korea's industrial core, their current problems and export prospects will be analyzed in this chapter supplementing the more general discussion in Chapter 4.

Textiles

5.04 Exports of textiles in 1983 were close to \$6 billion making Korea the second largest net exporter, after Italy. The industry also retained its preeminence among the various manufacturing subsectors in its share of trade (27% of total merchandise exports), employment (26% of the industrial workforce in 1982) and value added (almost 16% in 1982). But recent years have been troubled ones with the brief spurt in 1981 doing nothing to dispel the feeling of incipient crisis. Where textiles were once the driving force behind Korea's industrialization, absorbing a large proportion of the investment and growing at an annual rate of nearly 20% (real value added) between 1970 and 1978, it expanded a mere 4.5% p.a. during 1979-82. There was some

Table 5.1: BUSINESS INDICATORS BY MANUFACTURING SUBSECTOR

	Manufac- turing total	Tex- tiles	Foot- wear	Elec- tronics <u>/a</u>	Autos <u>/b</u>	Ships <u>/c</u>	Machi- nery <u>/d</u>	Iron & steel
1978								
Value added (won billion)	8,192	1,641	50	128	281	229	1,045	462
Employment ('000)	2,112	427	27	176	62	45	343	72
Exports (US\$ million)	11,277	4,020	686	1,109	42	801 <u>/e</u>	260	549
1982								
Value added (won billion)	17,306	2,005	135	1,521	1,703	694	2,122	1,310
Employment ('000)	2,099	383	37	207	51	71	295	66
Exports (US\$ million)	19,911.5	5,757.8	1,152.5	1,749.1	359.0	2,831.7 <u>/e</u>	647.2	3,043.0

/a Electrical, and electronic parts and components.

/b Road passenger transport.

/c Shipbuilding and repairing.

/d Includes: TV receivers, radio, telecommunication equipment.

/e Ships and boats other than warship.

Source: Mining and Manufacturing Survey, EPB; Monthly Review, Korea Exchange Bank; Economic Bulletin, EPB.

investment in the production of synthetic fibres in the latter part of the seventies as well as in sewing and dyeing, but capacity remained virtually stationary in spinning, knitting and weaving. Since much of the available capital was being poured into the heavy industries, textiles were neglected, but very low or negative profits in relation to total assets (the lowest for the manufacturing sector, Annex 3, Tables 2.15, 2.16), and a slowly growing export market have also begun tarnishing the industry's reputation in the eyes of investors. In 1981, the Government established a Textile Modernization Fund to revive the industry and replace machinery, a third of which is obsolete (over 10 years old). Commitments to this Fund have been slow in materializing and there remains some question as to whether resources should be devoted to textiles at a time when capital constraints are extremely tight.

5.05 The case for supporting textiles is based on the magnitude of its contribution to exports and employment. No industry could displace textiles in either of these areas in the near future and the backward linkages to the

machinery and chemicals subsectors (42% of the machinery used was of domestic origin in 1980 as against 17% in 1971), are extremely valuable. Nevertheless, the longer term viability of the industry, particularly its export competitiveness, is debatable and a larger dose of capital alone may not restore its fortunes.

5.06 There are two kinds of problems: internal ones which might possibly respond to policy initiatives and external ones associated with economic conditions abroad. Not only is textile machinery often old and labour intensive, but also Korean wages rose very steeply in the seventies - at 25% p.a. - much in excess of Korea's competitors, jeopardizing exports of low priced garments and textiles. The accumulated cost disadvantage has remained in spite of a slower increase in wages during the early eighties and a steady depreciation of the Won (Annex 3, Table 2.5). Manufacturers of synthetic textiles find their earnings pinched further by the requirement that they purchase a percentage of their raw materials from high priced local producers. These difficulties could be minimized if manufacturers were able to upgrade their product mix, but a number of obstacles stand in the way.

5.07 Inadequate technology and antiquated equipment have hindered progress in the bleaching and dyeing areas and there is room for progress in design and marketing. As long as Korea was a supplier of low quality fabric and garments, firms could depend upon foreign buyers to supply designs and specifications, monitor quality and manage the marketing. Korean clothing was sold under foreign brand names, few salesmen were stationed abroad and advertising could be neglected. Fashion garments and fabric of high quality require an entirely different approach. Consumers in the developed countries have a more than adequate stock of apparel, when they buy, their decisions are guided not so much by price as by the newness of design and fashion.^{1/} Success at producing fashionable textiles requires proximity to the market, great speed in responding to shifts in preferences, ability to produce in small lots and deliver items on very tight schedules, precise quality controls and close links with retailers.^{2/} Even if deficiencies in equipment can be made good through special funds or the initiative of General Trading Companies with strong interests in textiles, designing and marketing fashion garments is an uphill task, which only Hong Kong among the NIC's, may have partially mastered.

5.08 Still, such obstacles are not insurmountable. More daunting are those beyond the control of Korean producers. Textiles remain a sizable industry in the advanced countries, employing between 10 and 17% of the manufacturing labor force (14% in the U.S. as of 1982) or almost as much as automobiles and chemicals together.^{3/} This industry, which has taken a battering at the hands of East Asian exporters, has been retaliating with increasing effectiveness using political as well as economic weapons.

5.09 The textile industry's political power arises from the numbers involved and because the majority of workers - middle aged women living in towns with few alternative job possibilities - are geographically and occupationally immobile.^{4/} Closure of textile factories results in lost jobs not readily replaced in the current economic environment. Thus the industry's political leverage has launched a succession of Multi Fibre Agreements

(starting in 1974) between the industrial economies and the principal textile exporters, each more restrictive than the one before, with no relaxation of controls in sight.^{5/} At a time when a number of important new exporters are entering the field, e.g. the PRC, Philippines and Sri Lanka, the likelihood that Korea could greatly enlarge its sales, appears remote.

5.10 Producers in the industrial economies have also been actively marshalling their technological defenses. They have always enjoyed the immeasurable advantage flowing from closeness to what are increasingly trendy, smart and fashion conscious markets, but now, in addition they are whittling away at the price gap resulting from their higher wage costs.^{6/} The reaction has taken two forms. Certain articles that can be produced in parts and then assembled elsewhere are being produced in two stages. The first is within the industrial economies. The second has been moved to countries in Central America and South Asia where wages are low.^{7/}

5.11 Mechanization and automation has been another line of defense. New open ended rotor spindles offer a 40% saving in manpower over traditional ring spindles. Weaving has been automated by the advent of shuttleless and multi-phase looms that operate at higher speeds and can cope effectively with fashion changes when married with electronic monitoring systems. Knitting has been transformed by the combining of fabric and garment stages into one, increasing enormously the flexibility, through computer control of handling the design of high fashion items.^{8/} In clothing manufacture, automation and the acceleration of sewing operations have been assisted by computer controlled designing, laser beam cutting, high speed sewing machines and special purpose equipment for such previously labor intensive operations as button holing, patch pocket hemming and decorative stitching. With the advent of computer controlled designing, cutting, patterning and sewing, labor costs will be further reduced and manufacturers will be able to respond more quickly to fashion changes.^{9/}

5.12 Textiles is too important an industry to be easily abandoned by Korea, but with export/output ratios rising in the major industrial countries and import/consumption ratios declining, it may not merit a major infusion of capital (Annex 3 Table 2.4). But certain segments of the industry, possibly in the clothing sector currently providing 60% of textile exports, could be modernised, by way of collaboration between the General Trading Companies and the many small producers, and assured a place in the world trading system as secure as that of Hong Kong.

Footwear

5.13 The footwear industry has weathered the storms unleashed by the global recession with far fewer scars than textiles. Although growth of output and exports was brought to a halt between 1978-80 by the introduction of Orderly Marketing Arrangements (OMAs) in the US, the destination for two thirds of overseas sales, their termination in 1981, permitted export volume to increase by close to 10% in each of the past three years (Annex 3, Table 3.1). In 1982, the footwear subsector employed 4% of the manufacturing sector's labour force and accounted for 0.6% of value added. Exports of \$1 billion, made it the fifth largest trader and it remains one of the few

light industries whose cost structure is highly competitive in comparison with other East Asian producers, not to mention Italy, Spain and Brazil.

5.14 This competitiveness has been hard earned, because footwear is still a very labor intensive subsector (in the U.S. wage costs were one third of the total) with between 50 and 250 separate operations that have resisted automation and benefit only moderately from scale economies.^{10/} Nominal wages, which were rising annually by over 50% in the mid seventies created a serious problem (Annex 3, Table 3.3). The weakening of sales during 1979-81 provided firms with a strong incentive to curb the increase in labour costs and the depreciation of the Won in the early eighties also gave them welcome relief. But company profitability strengthened only marginally, as the gains in the cost structure were sacrificed in cutthroat competition for market shares. The fierceness of the price war reflected the modest scale of export opportunities, but excess production capacity, built up in anticipation of the end to U.S. trade controls, gave it an additional edge. While the price war certainly aided exports, it forced several firms into bankruptcy and the 10% (1982-83) drop in prices induced U.S. firms to file charges of dumping against Korean suppliers. Threatened by a renewal of the OMAS, the Korean footwear producers association, under the government's prompting, formed a committee to voluntarily limit exports to the U.S. market.

5.15 On the face of it, Korea may have some difficulties remaining a major exporter of footwear in the longer term. The country imports all its leather and rubber; backward linkages are few, though some cutting and sewing machines are now being made domestically; and production is labour intensive with the required skills learnt quite easily by the young women dominating the workforce. Thus footwear has all the makings of an industry likely to gravitate readily towards economies with the cheapest labor, the more so since designing, quality control and marketing is done largely by foreign buyers.

5.16 Perhaps the strongest point in Korea's favor comes from being an established, reliable producer in whom buyers have acquired confidence through long association. Other countries might have the advantage of lower cost labor, but these intangibles might be missing. The structure of the footwear industry has also strengthened the advantages derived from long experience and close ties with markets abroad. Sixty firms, 12% of the industry's total, produce 87% of the output and employ 84% of the work force (1982). Concentration reinforces the scale economies that do exist in the production of rubber footwear, comprising 60% of Korea's total production, and the big firms can afford to spend more on research and quality control. Large companies are also better placed to obtain patents for internationally known brands such as Nike and Puma - and to market under their own brand names.^{11/} In an international market increasingly riven by complex trade restrictions,^{12/} large corporations are also more adept at navigating around these barriers.

5.17 In the future, new producers of plastic and rubber shoes will emerge to challenge Korean supremacy and since the wages paid by the footwear industry are close to the average for manufacturing, it is only a matter of time before rising labor costs and the slow increase in productivity pushes Korean companies towards leather shoes with higher value added. Here they will be competing against exports from Italy, Brazil and Spain, produced mainly by

quite small firms, whose strength lies in quality and design. The market for medium and high priced shoes is extremely style conscious and as in clothing, new fashions are subject to shorter and shorter cycles. Thus, innovativeness, the ability to anticipate fashion trends, close contacts with retailers both large and small, flexibility in production and quickness in responding to a change in buyers' preferences are the determinants of success.

5.18 Local producers are better situated to take the market's pulse and smaller firms generally react with greater speed. The Italians and the Spanish have a strong presence in the market for quality leather footwear because they have traditionally been the leaders in style. For Korean companies to enlarge their niche will call for a considerable departure from their past strategy, much closer attention to trends in fashion and the soldering of links with retail networks.

5.19 Equally important for export growth will be geographical diversification. After making some headway in selling to Europe, Africa, the Mid-East and Latin America, during 1978-81, the U.S. market which took three quarters of Korean footwear in the mid 70s, but only one half in 1980, once again absorbed 70% of overseas sales in 1983. The onslaught from exports in the last two decades has decimated the U.S. shoe industry. The number of firms has been reduced by half (350) and production by almost as much. But the industry still provides employment to 150,000, semi-skilled workers and it is capable of mounting a rearguard action by way of OMAS to protect its local market.^{13/} Too rapid an expansion into the U.S. would, therefore, be counter-productive, ending in friction over trade and more vigilantly supervised quotas.

5.20 No dramatic gains can be forecast for the shoe industry through the mid eighties. But in spite of its low profitability this is a sector with some residual growth potential. It is more likely to retain its position as an exporter, than parts of the textile industry, if only because the shoe industry in some of the major importing nations may not be able to put up as strong a resistance as some of the other subsectors by virtue of its declining importance.

Steel

5.21 The longer term comparative advantage in producing and exporting carbon steel seems to lie with modern steel plants built in NICs such as Korea.^{14/} However, to realize this potential, the NICs will require the active support of the mature industrial economies in obtaining capital, technical assistance and eventually, export markets. Trade in steel and steel products is brisk, yet so far, the developing countries, in spite of their low production costs have made very limited inroads into the markets of the advanced countries, most of whose imports are from each other.^{15/} It is a trade which has engendered much international tension and bitterness.

5.22 The production of steel has long been equated with industrial strength and its waning health has sparked public concern far in excess of its contribution to economic well-being at a time when aluminium, plastics, composites and glass have superceded steel in many uses. Steel is also a

major employer and has linkages criss-crossing the industrial sector. Since closing steel plants causes considerable local distress, Western governments have preferred to protect and subsidise inefficient steel plants that for reasons of technological backwardness and high labor costs could be driven out of business. Such policies have saddled several of the industrial countries with steel capacity beyond their needs and encouraged exports.^{16/} This has prevented a rationalization of steel production on a worldwide basis. Cheap and efficiently produced carbon steel from Japan^{17/} competes against highly subsidized exports from the European countries in the U.S. market. Beleaguered American producers prevented by low profitability, escalating wage costs and the uncertain future of the industry, from building the 'green fields' plants that would place them in a firmer competitive position, seek shelter behind voluntary export controls, anti-dumping restrictions and import barriers primed by trigger price clauses. Such actions gain a temporary reprieve for the industry and protect jobs without getting at the excess capacity, technological obsolescence, low productivity and unaffordable wage levels, that are at the root of the malaise.^{18/}

5.23 Recession has compounded the problem for the mature economies by limiting alternative job outlets for steelworkers and making it harder for steel firms to move downstream into engineering activities, for example.^{19/} Nonetheless changes are in the offing. In the U.S., rationalization is taking place bit by bit through mergers, closures of old plant and the gradual concentration of new output, particularly of special steels in very efficient mini-mills. By 1985, experts see raw steel capacity in the U.S. dropping to 105 million tons, from 138 million in 1980, and to 91 million tons in 1990. A similar cut back is probable in Europe.^{20/} And with capacity being drawn down gradually in Japan as well,^{21/} the NICs should begin gaining more prominence in steel trade.

5.24 Currently Korea has 13 million tons of installed capacity, 8.4 million of which is in the modern Pohang steel complex, capable of producing steel at prices lower than even the most efficient Japanese plants, by virtue of lower capital costs and wages one fourth of those paid in Japan (\$3 per hour).^{23/} In 1983, over 12 million tons of steel were produced of which 5.7 million tons were sold abroad. Exports to Japan amounted to 1.4m, the U.S. 1.7 m, and East Asian markets 1.02 m. Unfortunately, Korea's superior production economics cannot readily be translated into growing exports and not just for the reasons referred to above. Domestic demand for steel from the shipbuilding, automobile, construction and machinery industries has been expanding steadily, reducing the surplus that can be sold abroad. A new integrated steel mill, under construction at Kwangyang will augment production capacity by 2.7 m tons in 1988. Until that facility becomes operational steel exports can grow at only a moderate pace, which, in fact, might be all that Korea's main markets will absorb.^{24/}

5.25 The opposition on the part of Japanese and American producers, worried by the presence of over capacity and visions of rising imports - to the erection of this new complex does generate some uncertainty. But it would be unfortunate if sentiments aroused by the market conditions prevailing today should deflect Korea from developing a standardised tradeable item with high value added, it is suited for producing.

Shipbuilding

5.26 At the time when the Korean government was making plans to develop basic metals and machinery industries, demand for ships was at a peak, the closing of the Suez Canal having created the need for large tankers, capable of carrying crude at reasonable costs, via the Cape route. It was logical in terms of forward integration, therefore, to include in the program, shipyards that would utilise the steel plate and equipment manufactured by the heavy industries, in constructing the giant vessels being bought by the world's shipping fleets. Financial support from the government persuaded four of Korea's major corporations, Hyundai, Samsung, Daewoo and Korea Shipbuilding, to build in less than a decade, modern facilities capable of producing 4 million Gross Tons (GT) (Annex 3, Table 4.2).^{25/} Production of new ships rose from 12,000 GTs in 1973 to 1.4 million GTs in 1982, 85% of which was exported with the government's EXIM bank providing 50% of the financing at attractive rates.^{26/} By 1982, the industry employed 2% of the manufacturing labor force, accounted for 3% of industrial value added, and exports of new ships, offshore structures and ship repairs earned \$2.2 billion.

5.27 Now the third ranked export subsector (15.4% of merchandise exports) with backward linkages to some 50 other industries, including machinery, basic metals, electronics and chemicals, shipbuilding is a major force in the economy. If Korea's share of total world orders for new ships, which was 10% in 1982 and 15% in 1983, rises to one third by 1986, its importance for the economy promises to become even more significant. But, having gained second place in the world market (Annex 3, Table 4.6), after Japan (with 40% of the market), Korea must continue its efforts at strengthening the industry's foundations so as to secure its position internationally and to derive the maximum economic benefit from the industry's success.

5.28 With their eyes on market share and capacity utilization rates, Korea's shipbuilders have been willing to sacrifice profits for the sake of growth. Until 1980, profits were negative. Then in 1981 and 1982, the industry edged into the black, but the ratio of net profits to net sales was a meagre 2.7%. Last year, as shipbuilders slashed prices to attract new orders at a time of acute recession in the shipping industry, profits may have slipped below that level.^{27/} Since little capital has been ploughed back internally, the debt-equity ratio of the shipbuilding industry is close to 2:1, which aside from posing financial risks, makes it difficult to obtain funding from international banks, funding whose importance will grow if the KEXIM increases its rates and diversifies its lending policy.^{28/} Prices for new ships have become firmer in the past few months as both Japanese and Korean yards are booked to capacity through mid-1985, but the 100 million ton glut in the shipping trade holds out scant prospect of a real upswing in demand before 1985/86. Profits in the intervening years will depend upon improvement in productivity.

5.29 The level of productivity is largely a function of experience, the average size of vessels constructed in relation to what is optimal given the yard size, and process technology. Korean builders still lag behind the Japanese on the learning curve. There is some evidence that productivity in certain shipbuilding operations is well below the level attained by Japanese

yards.^{29/} This is compensated for by wages about two thirds lower than in Japan. Thus, there remains considerable scope for catching up, which would help fatten profit margins.

5.30 Since the construction of Korean yards commenced during the great tanker boom of the seventies it is for the building of VLCCs that they are best suited. Unfortunately, few such vessels are being ordered today. The average tonnage of ships being assembled is 17,000 GTs and the profit on such contracts is very slender. Marginal profitability, the young age of Korean shipbuilding concerns and limited available stock of experienced designers, engineers and scientists, have constrained spending on local R & D in preference to imported technology. Some 54 (Annex 3, Table 4.4) technology agreements were secured in the seventies for ship design and hull construction. More recently, Japanese builders, the main source of technology on production processes as well as design, have become cautious about sharing information with what is now their principal competitor.^{30/} While design technology is still available from the European countries, the latest techniques concerning automation and management are more a preserve of the Japanese. Even in design the Japanese may be pulling ahead as the decay of European shipbuilding has curtailed the interest of European builders in new technology. Orders for more sophisticated vessels, such as LNG carriers, for example, would certainly boost the profitability of Korean yards, and to obtain such contracts, more R&D is required.

5.31 There are two other areas in which progress seems desirable: the local content ratio is one; a second is the development of smaller yards. Although Korean firms with support from the government have been active in setting up ancillary industries supplying inputs to shipbuilding, the base of subcontractors feeding the subsector remains relatively shallow. In 1983, the local content ratio was 60% for exported vessels, 75% for the ones purchased by domestic shippers. However, these statistics are misleading as they only include direct imports. For example, if a ship turbine is assembled in Korea with some domestic components, the entire engine is recorded as being of domestic origin. Therefore, the actual ratios are much lower. Vigorous collaboration, as found in Japan, is needed between the yards and potential subcontractors, with the builders supplying technical advice and specialized equipment, if necessary, to create an infrastructure of efficient and quality conscious suppliers.

5.32 Since the heyday of the supertankers may have passed, the majority of future orders will continue to be for vessels of a moderate size. Modernizing and expanding the smaller yards should be one objective. A second would be for shipbuilders, who now compete fiercely among themselves for business, to share new orders in accordance with comparative advantage.^{31/} Major yards, for instance, could construct large bulk carriers, tankers, LNG carriers and offshore structures, with smaller yards concentrating on the rest.

Machinery

5.33 Korea followed the Japanese example of the thirties and early forties in attempting to establish a broad based machinery industry through

one Big Push, in the decade of the seventies. Subsidized credit, tax exemptions, accelerated depreciation privileges, import controls and government investment in industrial estates, all helped strengthen entrepreneurial resolve, so that by the early eighties, Korea had assembled the capacity to produce not only all kinds of general machinery, but also electrical and nonelectrical machinery - including turbines and generators - earth moving equipment, numerically controlled machinery centers, nuclear steam supply systems and various kinds of industrial plants. Even if shipbuilding is excluded, employment in this sector had risen, by 1982, to half million (15% of the manufacturing labor force), the sector exported \$1.6 billion worth of equipment and it contributed 21.6% of the value added in manufacturing (Annex 3, Table 6.2).

5.34 By these simple criteria, the program has been an enormous success. But from other angles weaknesses are evident which suggest that it may be many years before the industry overcomes its teething troubles and can stake out a strong competitive position internationally. Unlike process industries such as steel and chemicals, where the production is machine paced and the technology embodied mainly in the equipment, machinery is skill and craft intensive, much more of the technology being embodied in the engineers and technicians comprising the work force. As a consequence, the gestation and payback period are long and geared to the slow accretion of intangible knowledge, skills and experience. A crash program can and did bring physical facilities into existence, but it cannot force the pace along the learning curve, nor can it readily induce users to switch from tried and familiar sources, even by quoting somewhat lower prices. The machinery sector, therefore, finds itself with plenty of productive capacity, having fully exploited scale economies where possible, but without the demand to utilize more than a fraction of it (Annex 3, Table 6.1). This has meant low or negative profits and very little internal generation of technology. Most seriously affected have been the longer run prospects of general machinery, the subsector potentially best suited to Korea's resource endowment.

5.35 There are over 2,000 firms in the field of general machinery, 96% rather small operations, with half of the total employees in the industry and producing 35% of the output. These firms, whose vitality will determine the industry's future performance, suffer from a multitude of handicaps. Because the system of subcontracting is poorly developed most firms produce a wide spectrum of products instead of concentrating on a few parts and components. Since division of labor cannot be exploited fully and specialized machines are unavailable, quality and productivity are poor. Productivity has also been hampered by a high turnover of labor (6-7% per month in the seventies, 4% in 1982) which has detracted from the accumulation of skills and experience.

5.36 In the early stages of the program, small firms, whose significance was not appreciated by the government, received only a tiny percentage of the capital assigned to the industry. Most of the funds were monopolized by the large corporations who used them to set-up vertically integrated operations, poorly suited for the efficient production of machinery. By manufacturing 40% of the parts and components themselves, the big companies acquired a great deal of equipment that stays idle much of the time and inflates corporate overheads. This production structure discouraged the industry's giants from

taking the lead in deepening the infrastructure of subcontractors, collaborating with small firms in improving product quality and laying the channels for a two-way flow of information relating to production and future demands. The forced growth of the machinery subsector also made it difficult for other industries that supply key inputs from keeping pace. Thus supplies of materials such as special steels, ceramics and silicon, still lag behind, as do electronics responsible for key components in modern machines. Even in the case of process technology, and know how related to heat treatment of metal, surface finishing, precision forging and casting, and precision moulding, special effort is needed to move abreast of the industrial countries.

5.37 Recovery during 1983, by increasing domestic and export demand for machinery, has fattened profits, led to a rise in investment and stimulated greater interest in licensing foreign technology. Small firms have been helped by credit from a newly created fund, lending exclusively to machinery companies. But the deficiencies remain. The import of technology in no way obviates the need to accumulate uncodified knowledge in the firms themselves; to refine managerial skills; to make arrangements for financing sales, 95% of machinery produced by small companies is currently being sold without credit; and to provide buyers the after-sales service they expect. During 1977-81, 60% of all general machinery used was imported. Hence, apart from the overseas market which takes a quarter of the industry's output, there is considerable room for expanding sales and plenty of excess capacity to do that with. As indicated in Chapter 4, machinery is one of the areas in which Korea could expand its trade. But a strategy emphasizing the growth of general machinery might have a higher pay-off in the medium-term than one that concentrates on heavy engineering, where the gap between Korea and the Western countries is far wider.

Electronics

5.38 The electronics industry is divided into three segments namely: (a) consumer products; (b) industrial equipment; (c) parts and components; and (d) software. It is the industry most tightly ruled by technological change and the one where the dependence on R&D is the greatest. From the earliest stages, the growth of the electronics sector in LDCs has been affected more by the production strategies of large Western based companies than by the actions of governments and local entrepreneurs. Now with the pace of technical advance accelerating and important new developments being concentrated in a relatively small number of firms with the resources to expend on long duration, expensive, research projects, the influence exerted by major international corporations has, if anything, grown.

5.39 The manufacture of electronics products in Korea began in the early seventies when, attracted by the availability of cheap labor, foreign companies established plants for assembling parts and components and home appliances from imported components. A rapid increase in Korean wages during the 1970s induced a shift of foreign investment to other S.E. Asian countries, but domestic firms continued to invest and grow. By 1980, a tenth of manufacturing output originated in the electronics subsector. Recession slowed growth to 7% during 1979-82 (nominal terms), exports increased at just 5% p.a. and employment of semi-skilled workers fell from 90,000 to 83,000 in 1982

(Annex 3, Table 5.6). Anticipating a business revival and concerned by their flagging competitiveness, the large domestic companies raised their investment in automation and new product development from 1981 onwards. Expenditure on R&D also increased from 1.5% of sales in 1980 to 1.9% in 1982.

5.40 The substantial growth in sales during 1983 showed that the effort which went into reducing product defects, introducing new quality control procedures, controlling wage costs and enlarging the share of items such as semi-conductors, ICs, electronic switching and VTRs had begun yielding dividends. Since electronics is widely recognized as the major growth industry of the eighties with its influence permeating all manner of industrial activities, the government is anxious to groom it into a leading export sector. What is not clear, though, is whether the industry can compete with the leaders in this field and move from producing low priced consumer appliances and simple components, in which it has considerable experience, to becoming an exporter of state-of-the-art products in areas such as semiconductors and microprocessors. For that to be possible, extensive access to foreign technology would be necessary which might be difficult to achieve.

5.41 There are currently almost 900 firms in the electronics industry, more than half of which employ less than fifty workers, and lack the research base necessary to stay abreast of new innovations. The average size of the Korean electronics firms is one tenth of that in Japan and given the technological currents, some of the smaller producers may not survive unless they enter into close subcontracting arrangements with the major corporations in the subsector.

5.42 Production and exports are heavily weighted by appliances (Annex 3, Table 5.1) and parts and components (89% of exports in 1983), but the growth of their markets is threatened by import barriers and the breakneck speed of technological advance in the U.S., Japan and Germany. Industrial equipment, where the highest growth is being projected in world trade, accounts for a seventh of the total output.

5.43 Meanwhile, a sea change may be imminent in the international electronics industry and the manner in which its production is allocated. It is indicative, for instance that the share of wholly-owned subsidiaries and joint ventures in exports has fallen from three fourths in 1971 to less than half in 1983. Labor costs have discouraged foreign investment in recent years but other factors are also at work. First, high development costs, short product life cycles, the need to finance costly research through stable sales and the advantages of producing custom made electronic components for particular kinds of equipment, have begun to favor large, vertically integrated firms with diversified product lines.^{32/} Second, the automation of assembly and testing operations is steadily reducing labor inputs.^{33/} International corporations, who until recently located their assembly facilities in East Asia, are becoming reluctant to install capital intensive equipment abroad, especially with technology changing as rapidly as it now is. The only remaining attraction stems from the tax and other benefits that are offered. Third, the importance of a large and stable home market on which to launch new products is greater than ever, now that development costs have grown manifold. Fourth, major international corporations are far less eager to license the technolo-

gies emerging from the laboratories, for fear of competition and uncertainties regarding the speed of technical progress.

5.44 As their traditional industries have decayed and grown smaller, the mature industrial economies have redistributed their resources and supported the expansion of other sectors. One of the most important of these is electronics. The large inputs of capital and research skills that it requires is very much in line with resource availabilities in these economies. Korea is still very much in the business of assembling equipment and components from inputs, two thirds of which are imported. It does not as yet have a clear advantage in either industrial equipment or parts and components. In appliances, its position is stronger, but even here the high technology elements must be imported. No doubt extraordinary efforts could yield some trade related rewards.^{34/} But a heavy investment of scarce capital and even scarcer skills in an industry where the advanced economies are locked in battle, will detract from the development of sectors in which gains could be achieved at far less cost (e.g. machinery).

Automobiles

5.45 The recent history of the automobile industry has been a stormy one. Major western producers especially American ones, safe behind high entry barriers and accustomed to a steady growth in demand have been deeply shaken: by an increasingly sophisticated buying public's demand for smaller cars of high quality; by the encroachment of Japanese imports superbly tailored to the consumers mood; and by signs of market saturation. These developments have induced automobile manufacturers in the U.S. - the largest single market - to take a variety of steps that have sharpened defensive competition, quickened the pace of technological change^{35/} and mobilized political sentiments against the unbridled import of cars.

5.46 Defensive measures include the down-sizing of cars, to match the requirements of buyers, and extensive retooling of plants to produce the new machines and produce them more efficiently than in the past. As the shape of cars has changed so have the methods of designing and assembling them, with computer assisted and modular techniques very much in the fore.^{36/} The extensive use of electronics and new materials has enhanced engine performance, while it has reduced weight at virtually no sacrifice in strength and durability. Finally, the U.S. auto industry, which directly and indirectly employs 11% of the labor force, has been able to orchestrate the political pressure needed to force Japanese manufacturers to adopt voluntary restraints on exports to the US.

5.47 As a result, automobile production is on the way to becoming even more the preserve of a few companies with the capital, the research capabilities and the international marketing apparatus to build and sell cars. The future of trade, now more than ever, is in the hands of political lobbies in the advanced countries and the companies who manage worldwide networks of parts production, assembly, and distribution. The barriers have risen so high that it may be almost impossible for major new producers to enter OECD markets unless it is through collaboration with the established corporations.^{37/}

5.48 Korea began assembling automobiles in 1962, graduating to the full fledged manufacture of an indigenously designed car, the Hyundai Pony, in 1976. Production capacity for cars is currently about 176,000 (a new Hyundai plant which should reach full capacity by 1985-86 will add 300,000 to this), and in 1983, after many years of low capacity utilization, 121,000 cars were produced, 35,000 being exported, mainly to developing countries.^{38/} Korean automobile manufacturers have confronted a number of difficult impediments. Even though 80% of the parts or components used for the principal domestic models such as the Pony and the Daewoo Maepsy are of local origin, the country does not possess the technological base for designing and producing a car that can compete in Western markets. Automotive design is one bottleneck, the backwardness of electronics, metallurgical and chemicals industries is an equally serious one. Automobile companies have also yet to perfect the crucial support system, comprised of reliable and quality conscious subcontractors, which Japanese experience has shown to be so important.

5.49 Although the ratio of cars to the population was as low as 8.5 per thousand in 1982, a sizeable internal market, almost essential for a healthy automobile industry has been slow in emerging, because of the high cost of buying and maintaining cars. It has slowly become apparent that neither of the two major producers is capable of penetrating western markets with a large volume of exports through their unaided efforts. Even the export of auto parts, a modest \$73 million in 1983, can grow into a major business only by dovetailing expansion and modernization of the parts industry with the global requirements of international automobile producers and through improvements in quality, virtually none of the parts being exported currently being of the standard where they can be used as original equipment.^{39/}

5.50 The auto industry's chances of becoming a leading sector in the latter part of the eighties have been assisted by a series of events over the past eighteen months. First, the government which till now had resisted the spread of automobile use because of the congestion and energy costs, is prepared to support the enlargement of the domestic market through a suitable adjustment of indirect taxes on cars and gasoline, some reduction in ownership fees and a scaling down of insurance charges.^{40/} It is anticipated that these measures together with rising income, will result in domestic sales of over 200,000 by 1986 as compared to 105,000 in 1983, a projection that appears to be based on rather high demand elasticities with respect to income and running costs.

5.51 The possibility of gaining a foothold in the US market also now seems assured following joint production deals between Hyundai and Mitsubishi and between Daewoo and GM. Both stem from the international companies desire to shave their production costs by siting certain kinds of facilities in countries with adequate supplies of skilled labor but low wages.^{41/} They also reflect the major's belief that the only way to compensate for flattening sales in the OECD countries will be to sell cars in the growing markets of the NICs. The agreement between GM and Daewoo, however, is particularly advantageous.^{42/} Not only will GM offer 60,000-100,000 of the subcompacts produced through its dealer networks to US customers, but also the company is no longer likely to be very vociferous in its attempts to contain the flow of automobile imports from Korea.^{43/}

5.52 These projects will be maturing in the second half of the eighties. At that time Korea will certainly benefit from increased exports and the technology transfer arising out of the joint ventures. But a significant surge in exports cannot be expected in the three years remaining in the Fifth plan.

CHAPTER VI

A MENU FOR POLICYMAKERS

6.01 The fragile state of the international trading environment and reverberations from the debt crises of the past two years are the two external factors that must enter the calculations of Korean policymakers. But in addition, there may be a need to align the growth and trade objectives more closely with (i) Korea's emerging industrial capabilities; and (ii) the scope for mobilizing domestic resources in the context of overall demand management. The delicate situation resulting from the unusual concatenation of an over-valued dollar and large US deficits, above normal unemployment in OECD countries and extensive Japanese export penetration in key industrial markets was discussed in Chapter I. Also touched upon was the emerging bias in the capital markets of net lenders against the NICs with large outstanding debt obligations. These parameters are freighted with certain implications for Korean strategy in the near term.

Growth and Resource Mobilization

6.02 Diminishing employment elasticity in the manufacturing sector (see Chapter 2), disguised unemployment in services and the high projected growth of the work force have all pushed policymakers towards growth rates of 7-8% p.a. But at the current stage of Korea's development capital output ratios are inflated by the expenditure on lumpy social overhead capital (Statistical Annex, Table A3.10). Hence high growth must be purchased through high savings. In this instance, a 7.5-8% increase in GNP will require a fixed investment/GNP ratio of between 30-32%. As was discussed at length in Chapter 2, the implications of this projected rate of growth for the balance of payments and foreign borrowing, depend very much on the behavior of inventories. It is possible, as shown in Table 6.1, for GNP to expand by 7.5% annually and a small current account surplus to be achieved in 1986 if exports increase by an average of 10% per annum and it is assumed that stocks can be compressed each year by between 1.5% and 2.8% of GNP.

6.03 If we assume that the Government's policy of import liberalization and attempts by producers to replenish inventories raises the import elasticity from 1.0 to 1.2 in 1985-86, a growth rate of 7.5% would result in a BOP deficit of about one and a half billion dollars by 1986. To achieve a surplus with the import elasticity in this range would require that the GNP growth be reduced to 5.0%- 6.0%, assuming inventories are held constant. The worst case scenario is one where we assume that the import elasticity is 1.2 and exports average a growth of 7.5% p.a. (instead of 10%). In the event of such a weakening in external demand, the desired increase in GNP would be dearly purchased in terms of foreign borrowing with the current account deficit reaching \$3 to \$4 billion by 1986.

6.04 Although the Government's projections might be the most plausible, the alternative scenarios presented in para. 6.03 cannot be ruled out altogether and the question arises whether it would be preferable under the circumstances to draw upon the international capital market instead of restraining growth by 1% or more. As indicated above (Chapter 3), the foreign

Table 6.1: REVISED FIFTH FIVE-YEAR PLAN SCENARIO

	1984	1985	1986
GNP growth	7.5	7.5	7.5
Merchandise exports (\$ bln)	26.5	30.9	35.7
Merchandise imports (\$ bln)	29.5	31.0	35.1
Current account balance/GNP	-1.2	-0.3	0.4
Investment/GNP	<u>28.7</u>	<u>29.1</u>	<u>29.5</u>
Fixed investment/GNP	<u>31.5</u>	<u>31.1</u>	<u>31.0</u>
Change in stocks/GNP	-2.8	-2.0	-1.5
Savings/GNP	26.7	28.1	29.3
Gross borrowing (\$ bln)	6.0	6.1	6.0

borrowing situation is far from easy and interest rates are still fairly high, but gross borrowing of up to \$7 billion p.a. might not be infeasible which could finance a small current account deficit. When the trade-off is between borrowing at 7-9% real interest rates and slower growth, Korea is still at the stage where the economic benefits should more than defray the costs of long term capital.

6.05 Aside from revealing the sensitivity of the balance of payments to assumptions concerning growth and import elasticities, these scenarios also highlight the importance of export growth and the saving ratio and to these we now turn.

Trade

6.06 Korea's longer term trade strategy has of late received an added twist from the difficulties encountered in raising funds abroad.^{1/} Exports are seen not only as the engine of growth but also the means for closing an onerous current account deficit. Thus, the 10-11% rate for enlarging real exports is associated with the 7.5-8% increase in GNP and current account equilibrium by 1986. Several points must be noted:

- (a) the increase in exports and imports cannot be divorced from the rate of change in domestic savings. For the sake of consistency, it is important to match the savings being projected with the anticipated export gains;
- (b) even if the two happen to agree, the implications of such a substantial growth in export volume must be traced out with reference to the commodity composition of exports and their geographical distribution to ensure that trading relationships with major OECD countries are not placed under strain; and
- (c) a closing of the trade gap could also occur from a progressive reduction in import elasticities through energy and raw material conservation as well as the extension of backward and forward linkages that raise domestic value added.

6.07 Although a geographical diversification of exports to faster growing LDCs might seem desirable, until their foreign exchange supplies are more comfortable they are likely to remain undependable trading partners. Thus, the OECD economies will continue to provide the NICs with most of its export markets. For the NICs, with total manufactured exports of \$95 billion to try and enlarge their trade by 9-11% p.a. would put international trade relations to a severe test unless it is accompanied by a diversification of exports and import liberalization which increases the accessibility of their markets to producers in the OECD countries.

6.08 As observed earlier, what has been most injurious to trade relations, is a sudden large spurt in the export of a few items. These spurts have caused great industrial dislocation in the importing countries. A moderate expansion in the sales of a multitude of goods is more easily accommodated. Such an approach calls for a broadly conceived trade and

investment program which breathes new life into the most promising segments of even the lagging sectors.

6.09 In textiles, for instance, some redirection of resources towards medium quality clothing and away from yarn or fabric, could stimulate export growth in an area where competition is milder and Korea's lower wage rates give it a comparative advantage. More reliance on imported yarn and fabric would help defuse criticism among trading partners. |

6.10 Much the same applies to machinery. By consolidating its position in the field of general machinery, instead of covering the entire sector, resources of capital and manpower would be used most efficiently and export gains maximized; while the continuation of a vigorous intra-industry trade with both OECD and East Asian countries would eliminate friction in trade relations. In electronics, as already stated, the optimal strategy might be to concentrate on consumer appliances based on certain key custom built components, supplied initially by foreign collaborators.^{2/} Finally, in overseas construction, a policy encouraging mergers among the many medium sized companies, might make possible a concentration of capital and skills sufficient to undertake the risk minimizing strategy of pursuing sophisticated projects in several different geographical areas. If construction business is difficult to obtain even with the promise of financing, service and training contracts might be a more lucrative source of revenues in the longer term and less vulnerable to rising wage costs.

6.11 For several years the Korean Government has pursued a systematic policy of liberalizing imports by adding to the list of items for which approval is automatic and gradually scaling down tariffs on selected items. By 1983, the liberalization ratio had climbed above 80% (in 1978 it was 58%) and it is proposed to raise this to 90% by 1986. Meanwhile, average import duties will be lowered from 30%, closer to 20%. These major steps should improve the trading climate, enhancing the openness of the Korean economy, while retaining for certain key infant industries the protection they require. They could be supplemented by further initiatives in the murky area of non-tariff barriers, which in some instances^{3/} can constitute impediments no less difficult than import duties or quotas.^{3/}

6.12 The trade strategy being proposed here is only a refinement of the course being taken by Korea but an important one nonetheless. Selectivity in the choice of products developed within subsectors, emphasis on intra-industry trade through increased import liberalization and a gradual expansion of exports on a broad front might be just as expeditious a strategy. It would serve to maintain the share of manufactured goods in total imports, that has been declining of late (Table 6.2), and by mollifying Korea's trading partners, strengthen the country's bargaining position.

Table 6.2: SHARE OF MANUFACTURES IN TOTAL IMPORTS: VARIOUS COUNTRIES

	Korea	Japan	USA	UK	West Germany	France	Italy
1971	55.0	28.6	66.8	50.9	58.1	66.3	48.5
1972	58.0	29.6	67.9	54.7	59.9	64.6	49.2
1973	56.7	30.5	64.8	56.2	57.9	64.8	49.3
1974	53.2	23.6	55.7	51.5	52.9	57.8	43.5
1975	51.5	20.3	53.8	52.2	55.1	57.3	42.1
1976	54.0	21.5	54.3	54.3	55.4	58.7	44.5
1977	53.9	20.8	53.2	58.4	57.0	58.0	45.1
1978	60.2	24.6	59.0	63.9	59.4	60.3	46.6
1979	57.0	24.5	55.0	65.7	57.9	60.2	48.1
1980	44.6						
1981	44.6						
1982	47.3						
1983	51.1						

Source: Monthly Statistical Bulletin, BOK; OECD, 1980.

Financial Policies

6.13 Mobilizing domestic savings and increasing industrial productivity are tasks of the utmost complexity and must be approached from several different directions. As discussed in Chapter 3, financial policies can, through incremental gains in allocative efficiency and by whetting the propensity to save, make possible, gains in both these areas. But for the financial system to work its subtle alchemy on the functioning of the economy, certain policies will have to be modified.

6.14 Until quite recently, financial development was being motivated by two concerns. The short-run goal was to supply the industrial sector with a volume of funds sufficient to meet, if not surpass, plan targets, at the cheapest possible rates. This meant using interest rate ceilings, selective credit policies, controls on bank lending, special funds and an easy monetary policy. The longer term objective was the orthodox one of deepening the financial system by creating specialized institutions and a variety of new borrowing instruments. Measured by industrial achievement, the first goal was definitely realized. And if changes in the structure of corporate borrowing are used as the criteria, there was a considerable multiplication in the channels through which money flowed to the business sector (Annex 3, Table 1.4). But what the economy now seeks, requires a somewhat different approach.

6.15 The encouragement given to non-bank financial intermediaries coupled with ceilings on bank lending and deposit rates, and, more recently, the tightening of monetary growth, led to a decline in the share of financial

assets held by the deposit money banks (DMB) from 49% in 1975 to 37% in 1982. Loans by DMBs as a proportion of the total fell from 56% to 44%. Thus, the institutions with potentially the most decisive role to play at Korea's current stage of development, as evidenced by the experience of Germany, France and Japan, could neither bid aggressively for savings nor compete on equal terms with short term finance companies and mutual savings banks. A diversion of funds to intermediaries with a limited perspective on the economy and a small base of information was one outcome of the controls enforced. Another was the bias that emerged against the smaller companies that depended on the banks for funding. Hemmed in by ceilings and credit guidelines, banks reacted by increasing collateral requirements and lowering the size of loans to their riskier borrowers. After 1979, restraints on the growth of M2 made it even harder for the DMBs to hold on to their share of the markets, as individuals and corporations substituted other assets for bank deposits.

6.16 As the DMBs fell back, other financial intermediaries, the bond and the stock markets, rose in prominence, helped along by a series of incentives offered by the government.^{4/} To a degree they compensated for the decline in the banks' ability to mobilize resources, but it can be argued, that at this juncture, they weakened the beneficial effect of the financial system on the functioning of the economy. For smaller savers they offered less convenient assets involving higher transaction costs. From the standpoint of allocation, they probably reduced the accessibility and increased the cost of capital to a wide class of borrowers and did not represent an effective marshalling of market knowledge for the purposes of efficient allocation. The short term finance companies, which are owned by large corporations, cater to a fairly limited clientele of companies, linked together through business dealings. Circulation of capital is, therefore, within narrow pools that have few interconnections.

6.17 The growth of the corporate bond market as an independent phenomena, is also a trifle deceptive. In recent years, commercial banks that must turn away valued customers because of a shortage of credit, have been willing to help in other ways. By guaranteeing corporate bonds for a fee, the banks have added an important source of income and provided business with another avenue for raising capital. Except that very little financial or "borrower" diversification has resulted since the bonds are virtually like loans as far as the DMBs are concerned and they can only be issued by very select customers. While the fees earned are attractive at a time when spreads on bank operations are still very slim, guaranteeing bonds is much riskier for the banks as they do not take any collateral for what is an "implicit loan".

6.18 The stock market, analysed in Chapter 3, remains in the doldrums. Costs of raising funds are steep. They would be higher still were it not for the presence of institutional investors and the support given by the Ministry of Finance which have averted a further slide in share prices. With many companies showing alarmingly low returns on capital and there being no expectation of a speedy revival in earnings, non-institutional investors concerned with income rather than capital gains, find shares unattractive.^{5/}

6.19 Recent measures taken by the Government will work towards a strengthening of the stock market and will facilitate the raising of equity capital by companies in the longer-term.^{6/} But there seems little point to pushing its development ahead of investor and corporate preferences and business profitability. The very high corporate debt-net worth ratios (Table 6.3) which have of late spurred reforms in the equity markets may in fact be far less of a problem than they appear on the surface once the effects of accelerated depreciation rules are factored into the calculation of corporate assets.^{7/} The debt-equity ratio has also been biased upward by the tendency of Korean companies not to revalue their assets, in spite of rapidly rising prices, to avoid paying the 3% tax such a revaluation entails.^{8/}

6.20 Thus the emphasis of financial reform should be on the banking system which is best situated to attract savings. In an economy that is moving towards structural stability, the banking system, has advantages as an instrument for allocating capital because of its broad information base and the wide scope of its lending activities. Greater freedom in setting deposit rates, and the removal of discriminatory interest rate regulations favouring other segments of the market would enhance the banking systems ability to attract savings. As the fiscal deficit is on the way to being eliminated, the monetary base is much more secure and it may even be possible to think in terms of monetary expansion somewhat larger than what is currently planned. Flexibility in adjusting lending rates to the term and riskiness of loans through a lifting of the ceilings on lending rates,^{9/} would stimulate banks to accommodate a wider spectrum of borrowers.^{9/} It might also encourage them to enlarge the volume of term lending and curtail the long-term finance they provide indirectly by guaranteeing bonds. Direct term lending could help accelerate certain desirable institutional changes. For instance creditworthiness analysis (currently conducted for 5% of loans) would become a serious enterprise and might lessen the reliance on collateral for loans. Banks would be induced to raise the calibre of their staff and in doing so will find it easier to increase the efficiency and profitability of their operations. An attempt at determining the costs and returns from various activities could provide bank managements with other ways of raising profitability. So would a widening of the services offered to customers especially the bigger ones.

6.21 Finally, a measure that in part has already been taken, the experience of the banks and their need for a broader earnings base argues in favor of a considerable enlargement of their activities to include commercial paper, leasing and trust business. In June 1984, banks were permitted to issue large denomination CDs at an interest rate of 11% and to lend the funds so obtained to their corporate customers at 12%. While this move will result in some switching out of time deposits and into the new instruments, the banks should also be able to bid more successfully for funds from the commercial paper and bond markets, augmenting the volume of resources at their disposal. Undoubtedly, such changes and the competition they induce will force other segments of the market to contract in size, but the cost imposed by these transitory difficulties should be outweighed by the gains from an institutionally more compact system with a firmer grasp on the flow of revenues.

Table 6.3: TOTAL DEBT/NET WORTH

Code no.		1978	1980	1982
321	Textiles	5.0	7.69	5.26
322	Wearing apparel	11.11	16.67	20.0
324	Footwear	2.56	7.14	7.69
371	Iron & steel	3.03	4.76	2.04
382	Machinery	5.26	3.57	3.45
383	Electrical machinery & appliances	3.57	4.76	3.7
3839	Others	3.03	3.13	2.78
3841	Shipbuilding and repairing	11.11	1.92	2.94
3842	Motor vehicles	3.45	8.33	6.25
3843	Motor vehicles parts and accessories	4.17	10.0	4.76
385	Other machinery & appliances	2.86	2.0	2.27

Source: Financial Statements Analysis, BOK.

Industrial Policy

6.22 Although the advantages of increasing the flexibility of interest rates have been apparent for some time, the government has been unwilling to act for fear that many business firms, their cash flow sharply reduced by the recession, would be unable to service higher interest payments on their large borrowings. This reasoning might usefully be reviewed now that the economy has entered an upswing. On infant industry grounds a number of companies might continue to require subsidized credit or direct budgetary support. These ought first to be isolated from the rest as meriting special treatment. As for the other firms whose condition is precarious, the banks in collaboration with the government must come to a judgment regarding their future chances. Basically healthy firms faced with temporary liquidity crises can be tided over and a program devised for liquidating the ones that are insolvent. The sooner this is done the better it is for the financial system, since firms close to bankruptcy for whom the failure to fulfill new obligations is costless, will borrow at any price, siphoning resources away from more worthwhile claimants. In any case, a cure for the plight of faltering industrial companies should no longer be sought only through interest ceilings. Mergers or direct government assistance might be superior: (i) by necessitating a vigorous screening of troubled enterprises; and (ii) by taking some of these obligations off the bank's shoulders.

6.23 Releasing banks from the straitjacket of obligations contracted under an earlier set of industrial policies, will by no means disassociate future lending to business from the guidance provided by the government's industrial objectives. Banks will have more latitude in their lending operations, with the government intervening only indirectly through the mechanisms of planning, fiscal and credit policies. There are many ways of defining a blueprint for industrial policy. The analysis in Chapters 4 and 5 offers some clues as to the direction of industrial change. Additional guidelines can be gleaned from observing industrial value added, net foreign exchange earnings and profitability across manufacturing subsectors, in Tables 6.4, 6.5 and 6.6. Each table provides a separate glimpse and the evidence that emerges does not always point in the same direction.

6.24 For instance, domestic value added (Table 6.4) is highest in food production and the nonferrous metal industry (dominated by cement manufacture). Moving down the list, however, potentially more attractive candidates, albeit with lower value added can be identified. The four, which in the context of the earlier discussion seem noteworthy are: textile products, general industrial machinery and fabricated metal products, electrical equipment and transport equipment. Value added coefficients for these subsectors (in 1980) range from 0.58 to 0.66, a respectable level by any standards.

6.25 Predictably, the food and beverages industry, which relies on domestically produced inputs, tops the list for the foreign exchange earning rate. But miscellaneous manufacturing which includes the electronics and transport subsectors are also fairly high as is metal products and machinery. The sectors that do not fare too well by this criteria are chemicals, primary metal manufacturing and wood products because of large import components.

Using a measure of profitability (Table 6.6), i.e. the ratio of net profit plus depreciation expenses to net sales, shows that apparel, steel, appliances and shipbuilding were ahead of the rest. If this information is combined with the industry profiles defined in Chapter 5, the subsectors with the greatest appeal are: machinery, appliances, shipbuilding, apparel and possibly steel.

Table 6.4: VALUE ADDED GENERATION COEFFICIENT BY INDUSTRY

Sector	Coefficient
Manufacturing	0.62
Light industry	0.71
Food, beverages and tobacco	0.80
Textiles and leather	0.61
Fiber yarn	0.49
Textile fabrics	0.60
Fabricated textile products	0.66
Lumber and wood products	0.34
Paper, printing and publishing	0.65
Nonmetallic mineral products	0.71
Heavy and chemical industry	0.50
Chemicals and chemical products	0.42
Basic chemicals	0.46
Chemical fibers	0.52
Petroleum products	0.19
Rubber products	0.56
Primary metal manufacturing	0.50
Iron and steel manufacturing	0.49
Primary iron and steel products	0.51
Primary nonferrous metal manufacturing	0.43
Metal products and machinery	0.60
Fabricated metal products	0.60
General industrial machinery and equipment	0.65
Electrical equipment and apparatus	0.63
Electronic and communication equipment	0.55
Transportation equipment	0.58
Measuring, medical and optical instruments	0.59
Construction	0.77
Electric, gas and water services	0.68

Source: 1980 Input-Output Tables of Korea, BOK, 1983.

Table 6.5: FOREIGN EXCHANGE EARNING RATE BY SECTOR

Sector	Percent
Manufacturing	62.3
Light industry	71.3
Food, beverages and tobacco	79.7
Textiles and leather	60.8
Lumber and wood products	34.3
Paper, printing and publishing	64.5
Nonmetallic mineral products	70.5
Miscellaneous manufacturing	69.0
Heavy and chemical industry	50.4
Chemicals and chemical products	42.4
Primary metal manufacturing	49.5
Metal products and machinery	59.7
Construction	76.8
Electric, gas and water services	78.1

Source: 1980 Input-Output Tables of Korea, BOK, 1983.

**Table 6.6: OPERATING CASH FLOW (NET PROFIT PLUS DEPRECIATION EXPENSES)
AS A RATIO OF NET SALES**

Code no.	1978	1980	1982
321 Textiles	0.02	-0.01	-0.01
322 Wearing apparel	-0.004	-0.002	0.01
324 Footwear	0.02	-0.004	0.003
371 Iron & steel	0.04	-0.02	0.01
382 Machinery	0.04	-0.20	-0.03
383 Electrical machinery & appliances	0.02	-0.02	0.01
3841 Shipbuilding & repairing	-0.09	0.03	0.02
3842 Motor vehicles	0.03	-0.10	0.004
3843 Motor vehicles parts & accessories	0.03	-0.14	0.002
385 Other machinery & appliances	0.03	0.04	0.02

Source: Financial Statements Analysis, BOK.

All of them derive their competitive edge from Korea's relatively low wage costs, but they also possess certain other attractive characteristics. In machinery, steel and shipbuilding, both product and process technologies are stable; price and quality are important determinants of the ability to sell, and the steel industry produces relatively standardized products. Success at selling higher quality garments depends on skill at design, flexibility at adapting products and low labor costs. The market for appliances covers a wide spectrum. There is a very large market for low priced, mass produced items of only moderate sophistication that can be captured once producers have mastered the technique of running efficient assembly line operations, practising strict quality control and creating an apparatus to market and service the products.

6.25 It is interesting to compare the findings from Table 6.4-6.6 with views concerning Japan's growth industries (Table 6.7). There is some overlap in the area of appliances, but Japan is clearly setting its sights on technology intensive products in the electronics and machinery subsectors where its comparative advantage now lies.

6.27 The industrial reshuffling, now occurring, also has a bearing on firm size. Currently some 30 companies account for 31% of value added in the manufacturing sector and 17% of total value added. They own 37% of all fixed assets in the manufacturing industry and employ 24% of the labor force. More significantly, the 10 largest conglomerates absorb nearly 50% of the total credit available. This high degree of concentration has resulted from the financial and marketing advantages enjoyed by large general trading companies in selling overseas;^{10/} from attempts by the conglomerates at minimizing risks and promoting earnings stability through ever widening diversification across manufacturing subsectors; from the improved access to financing that large size and diversified activities make possible; from the potential which a conglomerate firm enjoys for deriving larger benefits from its R&D activities; and from the ^{11/}scale economies which are within reach of only the bigger companies.

6.28 An attempt to increase international competitiveness by building plants that fully exploited scale economies, favored the emergence of large corporations during the industrial big push of the seventies. But the government also discovered that it was easier to coordinate industrial strategy with a few major producers, than a multitude of small ones. With the government willing to eschew its former interventionist role in industrial planning, and concern for the economic weight of the conglomerates in decision making beginning to mount, the advantages of bigness need to be appraised against the backdrop of future industrial trends.

6.29 There is no question that in sectors such as electronics, automobiles and basic metals, capital costs, technology intensity and the scale of marketing efforts all weigh in favor of large companies. Yet even in these industries, particularly automobiles, vertical integration can be tempered by an appreciation for the economies from subcontracting.^{12/} In fields such as garments, leather footwear, general machinery and to an extent, shipbuilding, the markets of tomorrow, will test the flexibility of producers; the speed with which they can design and manufacture items of the requisite

Table 6.7: GROWTH BY INDUSTRY GROUPS IN JAPAN

Industry/growth industry group and products	Growth mark/a	Growth factor	
		Domestic demand	Exports
Electrical Machinery			
Computers (peripheral equipment, personal computers and office computers)	*	Advanced and complex society	Exports to Europe and USA
Communication equipment (digital exchange and facsimile)	*	INS, progress of information	Exports to Europe and USA
Electronic components	*	Technological development, increased production of electronic equipment	Exports to USA
Domestic electronic equipment (VTR)	+	Increased domestic dissemination	Exports to USA
General Machinery			
NC machine tools, industrial robots, FMS, CAD/CAM	+	-	Exports to Europe and USA
Motor Vehicles			
Passenger cars	#	Creation of demand such as second car	Local production
Precision Equipment			
Watches and clocks	#	-	Diversification of export destinations
Cameras	#	-	Exports to Europe and USA
Pharmaceuticals			
Makers capable of developing new medicine	#	Treatment of cancer and adults' disease, increasing aging population	-
Service Industries			
For individuals			
Restaurants, home delivery of daily food, take-home food, nurseries and mail order business	+	Substitution of household chore	-
Sport classes, health clubs, culture centers	+	Promotion of health, diversification of leisure	-
Agent business for hospitals (clinical tests, administration and facility management)	*	Expansion of hospital administration work	-
CATV, videotechs	*	Diversification of information needs	-
Credit sales	#	-	-
For offices			
Computer service (system design and maintenance)	*	Contracting of in-house service activity	-
Survey and data processing business, information service	*	Entrusting to special organizations	-
Lease business	+	Streamlining of corporate financial affairs	-
VAN	*	Information orientation.	-

/a * = capable of accelerated growth in future; + = capable of growth at the same rate; and # = slower growth rate.

Source: Mitsui Bank Monthly Review, October 1983, p. 6.

quality; and their ability to carve niches for their differentiated goods under their own brand names. While very small firms, distant from their markets can rarely sustain the information, financing and selling costs attendant upon long distance trading, medium sized firms should be able to flourish in all of these industries. In fact such companies might well be better placed than the conglomerates currently dominating industry, not only in responding nimbly to volatile foreign demand but also in controlling labor costs.

R&D

6.30 The revised Fifth Plan sees technology as the touchstone of industrial maturity and fundamental to the continuing of export-led growth. The Government's objective is to raise R&D spending, currently about 1.2% of GNP to 2% of GNP bringing Korea almost abreast of Japan, which invests 2.2% in R&D and the US which devotes 2.3% of GNP to research.^{13/} While the process can commence through technology transfers from abroad, it must be supplemented by indigenous efforts both in assimilating foreign technology and innovating.

6.31 But R&D should not be seen as a way of vaulting over hard industrial truths. It is not costless and resources can be wasted on research just as on any other activities. As Japan's experience shows, industrial success stories are just as often based on superb design, accurately anticipating users needs, efficient, and imaginative production engineering and careful quality control,^{14/} than on major technological breakthroughs.

6.32 Each industry should have a minimal R&D capability to serve a 'listening post' function, assimilate technical advances being made abroad and where necessary, adapt foreign technology to Korea's requirements.^{15/} In many sectors a research base with these modest objectives should not involve a large outlay. Before firms raise the stakes, substantially increase their expenditure and attempt to acquire the capacity to conduct R&D geared to state of the art technology, other options such as licensing, overseas training, etc., could first be explored.

6.33 The market for technology is highly imperfect. If the rate at which new innovations are produced slows, or the costs of R&D continue to increase, which results in these activities being concentrated in few companies, terms and availability could both deteriorate. However, in certain areas, the readiness to license technologies is clearly still there with process technology more easily procured than product.^{16/} In addition, smaller companies exposed to stiffer competition in the sphere of technology and often in no position to set up production facilities overseas, show a greater willingness to license outright in an effort to extract what rent they can, or enter into joint ventures on terms favorable to the local partner.

6.34 For industries characterised by relatively stable technologies, such as basic metals, textiles, footwear, wood products, new technology is embodied in equipment or can be licensed without too much difficulty. The same applies to general machinery, although many of the latest machine tools and computer aided production facilities are based on advances in metallurgy and electronics, whose secrets their owners will not easily part with. Shipbuilding

occupies an intermediate position. This is not an industry in the throes of a technological revolution. No recent breakthroughs have been reported which give some shipbuilders a decisive edge over others and much of the production technology can be obtained through the world market. Unfortunately for new entrants into the shipbuilding industry, technological progress in the design and construction of sophisticated commercial vessels is becoming the province of a handful of shipbuilders in one or two countries. This could interfere with the ease of licensing in the future, as Korea attempts to automate the construction process and enlarges its share of the business in specialized types of ships. An expansion of R&D in ship design would therefore, seem only prudent.

6.35 A strong domestic R&D base is most important in fields such as chemicals, consumer appliances, computers, electronic components, and automobiles. A competitive position cannot easily be established in the export markets for such goods on the basis of licensing alone, not only because of the nature and cost of technological changes that are occurring, but also because major international companies, with a tendency to be wary about sharing technology, dominate these industries.

6.36 In automobiles, joint ventures involving Mitsubishi and GM will bring a welcome infusion of technology. Such arrangements or even wholly owned subsidiaries of foreign companies might reduce the necessity of crash R&D programs. But Korea cannot really avoid gradually widening the scale of R&D as joint ventures and wholly owned subsidiaries rarely lead to the transfer of the latest technology, or the genuine training of local labor. Frequently the products manufactured are those developed some time in the past.^{17/}

6.37 Local R&D holds out the promise of technological independence and the ability to compete on equal terms with the advanced countries, and the recent initiatives in areas such as electronics and biotechnology need to be encouraged. But since R&D conducted on an effective sale is highly expensive and Korean companies could face difficulties in financing major research programs out of their limited profits or in finding experienced research scientists to manage them, initially at least, joint ventures and licensing could be more important. Their drawbacks could be lessened through close Government screening and support as was provided by MITI in Japan.^{18/} For example, licensing could be a costly affair since the terms negotiated depend on the relative bargaining power of the companies involved. In the medium term, at least, Korean firms could be at a disadvantage when dealing with large international corporations. The price paid to attract major international producers to enter into joint ventures or establish subsidiaries is even higher and the sum total of technological gains not overly large. As many countries are in the race to draw foreign investors, the latter can shop around for credit, fiscal and marketing incentives, which now greatly outweigh the benefits^{19/} of labor cost differentials between developing and advanced economies. All this calls for hard headedness in negotiations and pragmatism in devising a national R&D program.

Demand Management

6.38 To squeeze the maximum growth rate out of the economy given internal resource constraints and the problems afflicting the trading environment, described above, demand management, with a very sure touch is the only answer. Over the past two years, the government has shown considerable adroitness in cushioning the swings in trade by stoking domestic construction activity and consumer demand. In 1983, for example, it was the construction sector, joined in the second quarter by producers of consumer durables, which provided much of the economic momentum in the first half, with exports taking over later in the year. By drawing upon the excess capacity in the ferrous and non-ferrous metal industry and subsectors producing transport equipment, consumer durables and electronic components, a growth of over 9% was achieved with fixed investment that was 31.5% of GNP.

6.39 Since capacity utilization is now approaching 78% (first half of 1984) such a striking performance will be harder to obtain on the basis of projected investment (average of 31% in 1984-86), but demand management can still make an appreciable difference. The persistence of excess capacity in certain subsectors, particularly machinery and automobiles means that measures which stimulate internal and export demand for these items will raise growth and employment with the least amount of strain on the savings-investment gap. For the medium-term, a strategy that nudges the increase in domestic demand towards manufactures, consumed directly or indirectly as inputs into services,^{20/} will lead to the largest expansion of the GNP. The manufacturing sector, as several studies have revealed, has experienced the most rapid growth in productivity and has an ICOR far lower than in many service industries.^{21/} (Table A3.10, Statistical Annex).

6.40 The government's willingness to stabilize domestic demand at a level close to full employment, by way of flexible tax, spending and monetary policies could have other positive effects as well. First, it will encourage manufacturing investment by diminishing the risks from wide and frequent fluctuations in foreign demand.^{22/} Second, it might also induce some degree of anti-cyclical behavior on the part of local investors. By shifting a part of their capital expenditures from the peak of a cycle, when expanding capacity is most costly, to a period of greater slack, businessmen could reinforce the actions of the government and pull up the average rate of growth over a cycle.

Wages Policy

6.41 Trade and industrial programs and the stabilization of demand at levels which will ensure a respectable growth rate, could unravel if inflationary pressures are not held in check. Wages have frequently been implicated (see Chapter 2) in the cost-push process which worsened inflation in the seventies and eroded Korea's competitiveness in light manufactures and electronic parts. As Korea broadens its industrial base and attempts to preserve a diversified export mix, containing wage costs in manufacturing and even more stringently in services, will be an important ingredient of the overall development strategy.

6.42 One feature of wage trends in Korea, which might have tightened the inflationary spiral, is the matching of wage increases granted to highly productive manufacturing workers by their far less productive counterparts in the service sector (Tables 6.8 and 6.9). This has a tendency to push prices of services upwards which then feeds into wage demands. The rigid maintenance, until recently, of wage relativities suggests a deep concern for distributive

Table 6.8: EARNINGS, PRICE AND PRODUCTIVITY TRENDS IN MANUFACTURING (1971-83) /a

Year	Annual Percentage Change		
	Real Earnings (1)	Productivity	
		VA/L /b Value added per labor	Korea Produc- tivity center estimate
		(2)	
1971/72	2.2	6.1	8.8
1972/73	14.3	5.8	8.8
1973/74	8.7	2.0	11.2
1974/75	1.5	2.1	11.6
1975/76	16.8	2.0	7.2
1976/77	21.5	11.0	10.8
1977/78	17.4	12.6	12.1
1978/79	8.8	6.4	15.8
1979/80	-4.6	4.0	10.7
1980/81	-1.0	11.0	18.2
1981/82	7.0	-2.0	7.5
1982/83	8.5	3.1	12.9/c

/a Earnings, productivity and labor's share refer to the manufacturing sector only.

/b VA/L = value added per unit labor.

/c Preliminary.

Sources: Yearbook of Labor Statistics, Mining and Manufacturing Surveys and Censuses, EPB.

justice, with social pressures ensuring that no group is left far behind.^{23/} A wages policy anchored to sectoral growth in productivity would lead to a rapid widening of wage differentials. One linking the increase in wages to the average change in productivity would satisfy the criterion of fairness, although it would compromise the allocative efficiency of the market. Wage policies are difficult to enforce under any but crisis conditions, but with Korea being so dependent on trade, workers might be prepared to accede in the short-term, especially if the guidelines encompass the largest number - blue and white collar workers in all occupations - and government shows itself equally determined to jawbone prices down.^{24/}

6.43 Another way of inducing workers to heed its guidelines, would be for the government to make evident the impossibility of any retreat from a tight monetary policy and a balanced budget. Although demand management and financial liberalization might be somewhat more difficult to conduct, this might serve as an effective tactic in the medium-term.^{25/}

Table 6.9: MONTHLY REAL EARNINGS BY INDUSTRIAL SECTOR /a
(In 1980 W '000)

Year	Manu- facturing	Commerce	Construc- tion	Finance, etc.	Transport, etc.
1970	64.4	89.2	109.4	170.8	83.4
1971	65.9	86.6	105.7	175.3	84.5
1972	67.3	90.1	113.9	187.6	96.1
1973	77.0	100.6	126.7	210.5	99.5
1974	83.7	99.9	121.8	204.2	101.1
1975	84.9	116.6	136.3	212.9	100.7
1976	99.2	144.3	221.3	236.1	123.4
1977	120.5	157.6	269.2	265.4	155.4
1978	141.4	180.4	339.1	314.1	181.5
1979	153.8	203.2	319.0	317.1	203.3
1980	146.7	211.0	257.7	281.6	203.5
1981	145.2	203.8	263.6	280.0	196.5
1982	155.4	218.2	281.3	298.2	208.6
1983	168.6	231.3	287.8	310.3	217.2

/a Small scale firms in the informal manufacturing and service subsectors are not included.

Source: Monthly Wage Survey, Ministry of Labor.

Productivity

6.44 Raising productivity is one way of rounding the circle, attaining the growth target without overstepping domestic resource constraints. As the productivity of Korean workers is far behind those of Japan and the US, there are tantalizing possibilities which could be unlocked by the right policies. Every industrial nation is searching for the same recipes, and encountering difficulties.^{26/} But Korea may be in a stronger position than many given the current structure of its economy.

6.45 As noted above, the largest gains in productivity are registered by the manufacturing sector. At present, less than a quarter of the labor force is employed in this sector (as compared to 27% in Japan in 1970), the rest being in services and agriculture. Demand management policies that help to accelerate the growth of manufacturing by inducing a transfer of labor, will raise average productivity.

6.46 At the macroeconomic level, this would be the most noteworthy development. It would be reinforced at the industry level by modernization of equipment, automation and by management's efforts at improving the organization and layout of shop floor activities. In assembly line work, the latter is of the highest importance, in a capital scarce country. The textile industry badly needs to replace ageing machinery. Jobs will be reduced, but the potential production gains are very large. Perhaps the greatest advances could be in the service sector, again with certain jobs being threatened.²⁷⁷ Office work, retailing, wholesaling and warehousing are being transformed by electronic technology. Korea lags farther behind in this area than in others and as the capital needs of infrastructure begin to taper, investment in services could yield a large productivity bonus.

The Outlook

6.47 The Korean economy turned in a performance second to none during 1983 at a time when the world economy was struggling out of a recession, growth in world trade was at a near standstill and net international lending was almost nil. Many problems remain but clearly, the economy seems little the worse from the three difficult years it endured at the start of the decade. If anything, the policymakers have honed their skills at managing the economy further and entrepreneurial enthusiasm is undiminished in spite of profit worries and the bleakly protectionist slant to the many trade negotiations now in progress among the OECD countries.

6.48 The determined mood in which Korea is entering the mid eighties is fully captured by the forceful language and optimistic goals with which the revised Fifth Plan is clothed. Many of them seem within reach; some will test the planners mettle. Small open industrializing economies must these days walk a tight rope. Their vulnerability to external and internal crises is very great. Their manufactured exports do not enjoy the assured long term markets some minerals do. They cannot tolerate an interruption of vital imports. But when a country performs so resoundingly well as Korea has done, offers high returns to capital and gives every evidence of being efficiently managed, there is reason to believe that the remaining macroeconomic and industrial problems can in time be overcome.

KOREA

COUNTRY ECONOMIC MEMORANDUM

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Table A1.1: NATIONAL ACCOUNTS SUMMARY /a
(Won billion at current prices)

	1978	1979	1980	1981	1982
<u>Gross Domestic Product</u>	<u>24,017.3</u>	<u>31,214.9</u>	<u>37,830.3</u>	<u>46,799.1</u>	<u>52,878.2</u>
<u>Resource Gap (M-X)</u>	<u>961.5</u>	<u>2,255.4</u>	<u>2,879.6</u>	<u>2,481.1</u>	<u>1,210.9</u>
Imports (G & NFS)	8,421.6	10,772.8	15,321.2	19,309.5	19,894.0
Exports (G & NFS)	7,460.0	8,517.3	12,441.6	16,828.5	18,683.1
<u>Total Expenditures</u>	<u>24,978.8</u>	<u>33,470.3</u>	<u>40,709.9</u>	<u>49,280.2</u>	<u>54,089.1</u>
<u>Consumption</u>	<u>17,423.9</u>	<u>22,330.8</u>	<u>29,079.7</u>	<u>35,937.2</u>	<u>40,109.3</u>
General government	2,465.9	3,048.3	4,247.1	5,225.1	6,073.1
Private /b	14,958.0	19,282.5	24,832.6	30,712.1	34,036.2
<u>Investment</u>	<u>7,554.9</u>	<u>11,139.5</u>	<u>11,630.2</u>	<u>13,343.0</u>	<u>13,979.8</u>
Fixed investment	7,463.6	10,239.7	11,874.0	13,208.1	15,675.6
Changes in stocks	91.3	899.8	-243.8	134.9	-1,695.8
<u>Domestic Savings</u>	<u>6,593.4</u>	<u>3,884.1</u>	<u>8,750.6</u>	<u>10,861.9</u>	<u>12,768.9</u>
Net factor income	208.0	33.8	-625.3	-1,024.0	-1,091.6
Current transfers	210.1	193.1	242.5	287.2	326.8
<u>National savings</u>	<u>7,011.5</u>	<u>9,111.0</u>	<u>8,367.9</u>	<u>10,125.1</u>	<u>12,004.1</u>
<u>Average Exchange Rates</u>					
Won/\$	484.0	484.0	607.4	681.0	731.1
Won/SDR	606.0	625.3	790.6	803.0	807.2

/a The following four tables have been prepared according to standardized World Bank concepts and definitions to facilitate cross-country comparisons and aggregations. These data may not always agree with similar data in the main text and this statistical appendix.

/b Includes statistical discrepancy.

Source: National Income in Korea, BOK.

Table A1.2: NATIONAL ACCOUNTS SUMMARY
(US\$ million at 1980 prices)

	1978	1979	1980	1981	1982
<u>Gross Domestic Product</u>	<u>60,181.44</u>	<u>64,558.38</u>	<u>62,279.27</u>	<u>66,532.33</u>	<u>70,203.50</u>
Terms of trade effect	2,763.99	2,809.28	-	-892.33	-42.79
Gross domestic income	62,945.43	67,367.67	62,279.27	65,640.00	70,160.71
<u>Resource Gap (5-6)</u>	<u>2,872.82</u>	<u>5,721.24</u>	<u>4,740.60</u>	<u>3,429.49</u>	<u>1,661.23</u>
Imports (G & NFS)	25,161.95	27,326.67	25,223.00	26,690.91	27,292.55
Capacity to import	22,289.13	21,605.42	20,482.40	23,261.43	25,631.32
Exports (G & NFS)	19,525.14	18,796.14	20,482.40	24,153.75	25,674.11
<u>Total Expenditures</u>	<u>65,818.25</u>	<u>73,088.91</u>	<u>67,019.87</u>	<u>69,069.48</u>	<u>71,821.94</u>
<u>Consumption</u>	<u>44,840.31</u>	<u>47,940.03</u>	<u>47,873.31</u>	<u>49,582.51</u>	<u>51,254.04</u>
General government	6,547.68	6,551.38	6,991.92	7,144.50	7,303.16
Private	38,292.63	41,388.65	40,881.39	42,438.01	43,950.88
<u>Investment</u>	<u>20,977.94</u>	<u>25,148.88</u>	<u>19,146.57</u>	<u>19,486.97</u>	<u>20,567.90</u>
Fixed investment	20,142.91	21,864.35	19,547.93	18,809.89	21,380.64
Changes in stocks	835.03	3,284.53	-401.36	677.08	-812.74
<u>Domestic Savings</u>	<u>18,105.13</u>	<u>19,427.64</u>	<u>14,405.97</u>	<u>16,057.49</u>	<u>18,906.67</u>
Net factor income	548.13	73.88	-1,029.40	-1,435.20	-1,449.45
Current transfers	553.49	421.71	399.30	402.52	433.96
<u>National savings</u>	<u>19,206.75</u>	<u>19,923.22</u>	<u>13,775.87</u>	<u>15,024.80</u>	<u>17,891.18</u>
<u>Won Deflators</u>					
Gross domestic product	0.66	0.80	1.00	1.16	1.24
Imports (G & NFS)	0.55	0.65	1.00	1.19	1.20
Exports (G & NFS)	0.63	0.75	1.00	1.15	1.20
Total expenditures	0.62	0.75	1.00	1.17	1.24
Government consumption	0.62	0.77	1.00	1.20	1.37
Private consumption	0.64	0.77	1.00	1.19	1.27
Fixed investment	0.61	0.77	1.00	1.16	1.21
Changes in stocks	0.18	0.45	1.00	0.33	3.44
<u>Exchange Rate Index</u> (US\$ per won)	0.80	0.80	1.00	1.12	1.20

Sources: Economic Statistics Yearbook, BOK; and National Income in Korea, BOK.

Table A1.3: BALANCE OF PAYMENTS
(US\$ million at current prices)

	1978	1979	1980	1981	1982
<u>Exports (G & NFS)</u>	<u>15,413.3</u>	<u>17,597.8</u>	<u>20,482.4</u>	<u>24,710.3</u>	<u>25,553.7</u>
Merchandise (FOB)	12,710.6	14,704.5	17,214.0	20,670.8	20,879.0
Nonfactor services	2,702.7	2,893.3	3,268.4	4,039.5	4,674.7
<u>Imports (G & NFS)</u>	<u>17,399.9</u>	<u>22,257.8</u>	<u>25,223.0</u>	<u>28,353.4</u>	<u>27,209.9</u>
Merchandise (FOB)	14,491.4	19,100.0	21,598.1	24,299.1	23,474.0
Nonfactor services	2,908.5	3,157.8	3,624.9	4,054.3	3,735.9
<u>Resource Balance</u>	<u>-1,986.6</u>	<u>-4,660.0</u>	<u>-4,740.6</u>	<u>-3,643.1</u>	<u>-1,656.2</u>
<u>Net Factor Income</u>	<u>429.8</u>	<u>69.9</u>	<u>-1,029.4</u>	<u>-1,503.6</u>	<u>-1,493.0</u>
Factor receipts	1,747.4	1,932.9	2,094.9	2,558.6	2,801.6
Factor payments	1,317.6	1,863.0	3,124.3	4,062.2	4,294.6
(MLT interest paid)	693.8	932.1	1,353.8	1,757.6	2,065.1
<u>Net Current Transfers</u>	<u>434.0</u>	<u>399.0</u>	<u>399.3</u>	<u>421.7</u>	<u>447.0</u>
Transfer receipts	N/A	N/A	N/A	N/A	N/A
Transfer payments	N/A	N/A	N/A	N/A	N/A
<u>Current Account Balance</u>	<u>-1,122.8</u>	<u>-4,191.1</u>	<u>-5,370.7</u>	<u>-4,725.0</u>	<u>-2,702.2</u>
Direct investment	100.5	126.0	96.2	105.4	100.6
Official grant aid	37.0	40.0	50.0	79.0	52.0
<u>Net MLT Loans (DRS) /a</u>	<u>2,155.9</u>	<u>2,936.8</u>	<u>2,140.3</u>	<u>3,379.8</u>	<u>2,354.5</u>
Disbursements	3,392.8	4,669.7	3,643.7	5,286.2	4,346.0
Repayments	1,236.9	1,732.9	1,503.4	1,906.4	1,991.5
Other MLT (net)	-	-	-	-	-
<u>Net Credit from IMF</u>	<u>-776.</u>	<u>-125.4</u>	<u>545.4</u>	<u>563.3</u>	<u>13.2</u>
Disbursements	N/A	N/A	N/A	N/A	N/A
Repayments	N/A	N/A	N/A	N/A	N/A
Net short-term capital	-1,171.0	843.6	1,944.5	-82.3	3.6
Capital flows NEI	1,020.7	1,469.8	1,839.2	1,911.4	1,946.8
Errors and omissions	-312.0	-328.7	-369.9	-410.6	-1,295.5
<u>Change in Net Reserves</u>	<u>-630.7</u>	<u>-771.0</u>	<u>-875.0</u>	<u>-821.0</u>	<u>-473.0</u>

/a Includes private nonguaranteed debt.

Source: Economic Statistics Yearbook, BOK.

Table A1.4: SOCIAL INDICATORS

	KOREA, REPUBLIC OF			REFERENCE GROUPS (WEIGHTED AVERAGES) /a	
	1960/ ^b	1970/ ^b	MOST RECENT ESTIMATE / ^b	(MOST RECENT ESTIMATE) / ^b MIDDLE INCOME ASIA & PACIFIC	MIDDLE INCOME LAT. AMERICA & CARIB
AREA (THOUSAND SQ. KM)					
TOTAL	98.5	98.5	98.5	.	.
AGRICULTURAL	21.4	23.2	22.4	.	.
GDP PER CAPITA (US\$)	180.0	420.0	1700.0	1028.6	2088.2
ENERGY CONSUMPTION PER CAPITA (KILOGRAMS OF COAL EQUIVALENT)	208.0	723.0	1563.0	792.8	1407.6
POPULATION AND VITAL STATISTICS					
POPULATION, MID-YEAR (THOUSANDS)	25012.0	32241.0	38880.0	.	.
URBAN POPULATION (% OF TOTAL)	27.7	40.7	55.9	32.9	65.9
POPULATION PROJECTIONS					
POPULATION IN YEAR 2000 (MILL.)			52.2	.	.
STATIONARY POPULATION (MILL.)			73.8	.	.
YEAR STATIONARY POP. REACHED			2095	.	.
POPULATION DENSITY					
PER SQ. KM.	254.0	327.4	387.9	260.7	35.6
PER SQ. KM. AGRI. LAND	1168.8	1387.3	1702.2	1096.5	93.2
POPULATION AGE STRUCTURE (%)					
0-14 YRS	42.9	42.1	33.7	39.4	40.1
15-64 YRS	53.7	54.6	62.3	57.2	55.8
65 AND ABOVE	3.3	3.3	4.0	3.3	4.1
POPULATION GROWTH RATE (%)					
TOTAL	2.1	2.5	1.7	2.3	2.3
URBAN	4.7	6.4	4.6	3.9	3.7
CRUDE BIRTH RATE (PER THOUS)	42.7	30.3	24.0	31.3	31.5
CRUDE DEATH RATE (PER THOUS)	13.4	9.1	6.9	9.6	8.1
GROSS REPRODUCTION RATE	2.7	2.1	1.4	2.0	2.0
FAMILY PLANNING					
ACCEPTORS, ANNUAL (THOUS)	..	671.0	686.0/ ^c	.	.
USERS (% OF MARRIED WOMEN)	..	32.0	55.0	46.6	..
FOOD AND NUTRITION					
INDEX OF FOOD PROD. PER CAPITA (1969-71=100)	89.0	99.0	124.0	125.2	113.0
PER CAPITA SUPPLY OF CALORIES (% OF REQUIREMENTS)	97.0	107.0	128.0	114.2	111.3
PROTEINS (GRAMS PER DAY)	57.0	63.0	82.0	57.9	67.9
OF WHICH ANIMAL AND PULSE	7.0	8.0	14.0/ ^d	14.1	34.1
CHILD (AGES 1-4) DEATH RATE	8.6	4.0	2.0	7.6	5.3
HEALTH					
LIFE EXPECT. AT BIRTH (YEARS)	54.4	60.3	66.1	60.2	64.6
INFANT MORT. RATE (PER THOUS)	78.3	50.1	33.1	68.1	62.6
ACCESS TO SAFE WATER (% POP)					
TOTAL	12.1	58.0	71.0	37.1	64.8
URBAN	18.6	84.0	85.0	54.8	77.8
RURAL	9.5	38.0	54.9	26.4	44.3
ACCESS TO EXCRETA DISPOSAL (% OF POPULATION)					
TOTAL	..	25.0	64.0/ ^e	41.4	54.6
URBAN	..	59.0	80.0/ ^e	47.5	69.8
RURAL	..	..	50.0/ ^e	33.4	29.8
POPULATION PER PHYSICIAN	3540.0	2240.0	1690.0	7771.9	1776.0
POP. PER NURSING PERSON	3250.0/ ^{f,h}	1790.0/ ^h	380.0	2462.6	1012.2
POP. PER HOSPITAL BED					
TOTAL	2510.0	1950.0	640.0/ ^g	1047.2	477.0
URBAN	1290.0/ ^g	1100.0	750.0/ ^g	651.1	667.5
RURAL	..	..	..	2591.9	1921.6
ADMISSIONS PER HOSPITAL BED	..	14.9	..	27.0	27.2
HOUSING					
AVERAGE SIZE OF HOUSEHOLD					
TOTAL	5.6	5.0	4.5	..	..
URBAN	5.4	..	..	..	..
RURAL	5.6	..	..	..	..
AVERAGE NO. OF PERSONS/ROOM					
TOTAL	2.5	2.3	2.0/ ^e	..	..
URBAN	2.8	2.7	2.1/ ^e	..	..
RURAL	2.4	2.2	2.0/ ^e	..	..
ACCESS TO ELECT. (% OF DWELLINGS)					
TOTAL	28.4	49.9	..	..	..
URBAN	67.3	92.4	..	..	..
RURAL	12.4	29.9	64.9/ ^d	..	..

Table A1.4: SOCIAL INDICATORS

	KOREA, REPUBLIC OF			REFERENCE GROUPS (WEIGHTED AVERAGES) /a	
	1960/b	1970/b	MOST RECENT ESTIMATE/b	MIDDLE INCOME ASIA & PACIFIC	MIDDLE INCOME LAT. AMERICA & CARIB
EDUCATION					
ADJUSTED ENROLLMENT RATIOS					
PRIMARY: TOTAL	94.0	103.0	107.0	101.2	105.0
MALE	99.0	104.0	108.0	106.0	106.3
FEMALE	89.0	103.0	105.0	97.5	103.6
SECONDARY: TOTAL	27.0	42.0	85.0	44.9	40.0
MALE	38.0	50.0	89.0	50.0	38.6
FEMALE	14.0	32.0	80.0	44.6	41.2
VOCATIONAL (% OF SECONDARY)	14.2	14.3	18.6	18.5	34.0
PUPIL-TEACHER RATIO					
PRIMARY	58.0	57.0	46.0	32.7	30.7
SECONDARY	34.0	37.0	39.0	23.4	16.7
ADULT LITERACY RATE (%)	70.6	87.6	93.0/i	72.9	79.5
CONSUMPTION					
PASSENGER CARS/THOUSAND POP	0.5	1.9	6.2	9.7	45.6
RADIO RECEIVERS/THOUSAND POP	31.2	124.4	392.7	113.7	228.2
TV RECEIVERS/THOUSAND POP	0.3	13.0	164.4	50.1	108.3
NEWSPAPER ("DAILY GENERAL INTEREST") CIRCULATION PER THOUSAND POPULATION	68.1	136.3	172.8	54.0	64.1
CINEMA ANNUAL ATTENDANCE/CAPITA	4.1	5.2	1.7	3.4	2.9
LABOR FORCE					
TOTAL LABOR FORCE (THOUS)	8307.0	11285.0	15064.0	.	.
FEMALE (PERCENT)	26.1	32.7	32.5	33.6	24.8
AGRICULTURE (PERCENT)	66.0	50.0	34.0	50.9	31.3
INDUSTRY (PERCENT)	9.0	17.0	29.0	19.2	23.9
PARTICIPATION RATE (PERCENT)					
TOTAL	33.2	35.0	38.7	38.6	31.3
MALE	49.5	46.8	51.9	50.7	49.8
FEMALE	17.2	23.0	25.4	26.6	14.8
ECONOMIC DEPENDENCY RATIO	1.4	1.3	1.0	1.1	1.4
INCOME DISTRIBUTION					
PERCENT OF PRIVATE INCOME RECEIVED BY					
HIGHEST 5% OF HOUSEHOLDS	..	17.1	16.1/g	22.2	..
HIGHEST 20% OF HOUSEHOLDS	..	44.5	45.3/g	48.0	..
LOWEST 20% OF HOUSEHOLDS	..	7.1	5.7/g	6.4	..
LOWEST 40% OF HOUSEHOLDS	..	17.7	16.9/g	15.5	..
POVERTY TARGET GROUPS					
ESTIMATED ABSOLUTE POVERTY INCOME LEVEL (US\$ PER CAPITA)					
URBAN	..	..	320.0/i	194.5	289.8
RURAL	..	..	270.0/i	155.0	184.5
ESTIMATED RELATIVE POVERTY INCOME LEVEL (US\$ PER CAPITA)					
URBAN	..	..	370.0/i	178.0	519.8
RURAL	..	..	310.0/i	164.8	372.1
ESTIMATED POP. BELOW ABSOLUTE POVERTY INCOME LEVEL (%)					
URBAN	..	..	18.0/i	24.4	..
RURAL	..	..	11.0/i	41.1	..

.. NOT AVAILABLE
 . NOT APPLICABLE

NOTES

/a The group averages for each indicator are population-weighted arithmetic means. Coverage of countries among the indicators depends on availability of data and is not uniform.

/b Unless otherwise noted, "Data for 1960" refer to any year between 1959 and 1961; "Data for 1970" between 1969 and 1971; and data for "Most Recent Estimate" between 1979 and 1981.

/c 1975; /d 1977; /e 1975; /f 1962; /g 1976; /h Registered, not all practicing in the country; /i 1978.

Table A2.1: POPULATION AND EMPLOYMENT

Year	Total population (mid-year)	Pop. 14y+	Total labor force ('000)	Employed ('000)
1965	28,705	15,937	8,859	8,206
1970	32,241	18,253	10,199	9,745
1975	35,281	21,835	12,340	11,830
1976	35,849	22,549	13,061	12,556
1977	36,412	23,336	13,440	12,929
1978	36,969	24,024	13,932	13,490
1979	37,534	24,678	14,206	13,664
1980	38,124	25,335	14,454	13,706
1981	38,723	25,969	14,710	14,048
1982	39,331	26,531	15,080	14,424
1983	39,951	27,130	15,128	14,515
Growth rate p.a. (%)				
1965-70	2.4	3.0	2.9	3.5
1970-75	1.8	3.2	3.9	4.0
1975-80	1.6	2.3	4.5	4.5
1981	1.6	2.5	1.8	2.5
1982	1.6	2.2	2.5	2.7
1983	1.6	2.3	0.3	0.6
Labor force participation rate				
Year	Average	Male	Female	Unemployment rate
	(%)			
1965	55.6	76.6	36.5	7.4
1970	55.5	75.1	38.5	4.5
1975	56.5	74.5	36.9	4.1
1976	57.9	74.6	42.3	3.9
1977	57.6	75.9	40.7	3.8
1978	58.0	75.0	42.2	3.2
1979	57.6	74.1	42.2	3.8
1980	57.1	73.6	41.6	5.2
1981	56.6	73.2	41.1	4.5
1982	56.8	72.5	42.2	4.4
1983	55.8	70.9	41.6	4.1

Source: EPB, Korea Statistical Yearbook.

Table A2.2: SECTORAL EMPLOYMENT

Year	Total employment ('000)	Agriculture		Mining and manufacturing		Other	
		'000	%	'000	%	'000	%
1965	8,206	4,810	58.6	849	10.3	2,547	31.0
1970	9,745	4,916	50.4	1,395	14.4	3,434	35.2
1975	11,830	5,425	45.9	2,265	19.1	4,140	35.0
1976	12,556	5,601	44.6	2,743	21.9	4,212	33.5
1977	12,929	5,405	41.8	2,901	22.4	4,623	35.8
1978	13,490	5,181	38.4	3,123	23.2	5,186	38.4
1979	13,664	4,887	35.8	3,237	23.7	5,540	40.5
1980	13,706	4,658	34.0	3,095	22.6	5,952	43.4
1981	14,048	4,806	34.2	2,996	21.3	6,247	44.5
1982	14,424	4,623	32.1	3,157	21.9	6,644	46.1
1983	14,515	4,314	29.7	3,383	23.3	6,818	47.0
Growth rate							
p.a. (%)							
1965-70	3.5	0.4		10.4		6.2	
1970-75	4.0	2.0		10.2		3.8	
1975-80	3.0	-3.0		6.4		7.5	
1976	6.1	3.2		21.1		1.7	
1977	3.0	-3.5		5.8		9.8	
1978	4.3	-4.1		7.7		12.2	
1979	1.3	-5.7		3.7		6.8	
1980	0.3	-4.7		-4.4		7.4	
1981	2.5	3.2		-3.2		5.0	
1982	2.7	9.6		5.4		6.4	
1983	0.6	-6.7		7.2		2.6	

Source: EPB, Korea Statistical Yearbook.

Table A3.1: GNP BY EXPENDITURE CATEGORY (1980 BASE DATA) CURRENT PRICES, 1970-83

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983 P
Current Prices														
Consumption	2,305.1	2,882.8	3,467.0	4,153.1	6,010.7	8,164.9	10,569.9	13,135.5	17,331.1	22,467.3	29,075.0	35,856.4	40,192.7	44,027.5
Private consumption	2,040.5	2,547.8	3,054.5	3,704.9	5,322.5	7,188.3	9,162.3	11,272.9	14,865.2	19,419.1	24,828.5	30,631.3	34,119.6	37,320.0
Public consumption	264.6	335.1	412.4	448.2	688.2	976.5	1,407.7	1,862.6	2,465.9	3,048.3	4,247.1	5,225.1	6,073.1	6,707.5
Gross Domestic Investment	693.2	848.1	923.0	1,381.2	2,374.8	3,030.1	3,556.9	5,026.5	7,554.9	11,139.4	11,630.2	13,343.0	13,979.8	16,107.2
Fixed investment	627.1	726.4	830.8	1,257.7	1,898.8	2,573.4	3,343.3	4,830.0	7,463.6	10,239.7	11,874.0	13,208.1	15,675.6	18,537.5
Change in stocks	66.1	121.7	92.2	123.5	476.1	456.7	213.6	196.4	91.3	899.8	-243.8	134.9	-1,695.8	-2,430.3
Exports of goods and NFS	381.7	516.9	819.1	1,577.7	2,071.2	2,735.4	4,291.8	5,644.2	7,460.0	8,517.3	12,520.2	16,842.6	18,693.5	21,771.6
Imports of goods and NFS	643.2	866.6	1,015.1	1,739.6	2,916.4	3,615.7	4,610.9	6,002.9	8,421.6	10,772.8	15,394.6	19,325.1	19,921.4	22,277.4
Statistical discrepancy	-12.8	-2.7	-24.4	43.1	28.3	-79.7	74.8	55.4	92.9	-136.4	-0.9	82.3	-66.3	-174.5
<u>Gross Domestic Product</u>	<u>2,724.0</u>	<u>3,378.6</u>	<u>4,169.5</u>	<u>5,415.5</u>	<u>7,568.7</u>	<u>10,234.9</u>	<u>13,882.5</u>	<u>17,858.7</u>	<u>24,017.3</u>	<u>31,214.9</u>	<u>37,830.3</u>	<u>46,799.1</u>	<u>52,878.3</u>	<u>59,454.5</u>
Net factor income	11.9	-3.5	-15.5	-37.0	-65.6	-142.7	-1.4	256.7	208.0	33.8	-625.3	-1,024.0	-1,091.7	-1,174.8
<u>Gross National Product</u>	<u>2,735.9</u>	<u>3,375.1</u>	<u>4,154.0</u>	<u>5,378.5</u>	<u>7,503.1</u>	<u>10,092.2</u>	<u>13,881.1</u>	<u>18,115.4</u>	<u>24,225.3</u>	<u>31,248.7</u>	<u>37,205.0</u>	<u>45,775.1</u>	<u>51,786.6</u>	<u>58,279.7</u>
Composition (% at Current Prices)														
Consumption	84.3	85.4	83.5	77.2	80.1	80.9	76.1	72.5	71.5	71.9	78.1	78.3	77.6	75.5
Private consumption	74.6	75.5	73.5	68.9	70.9	71.2	66.0	62.2	61.4	62.1	66.7	66.9	65.9	64.0
Public consumption	9.7	9.9	9.9	8.3	9.2	9.7	10.1	10.3	10.2	9.8	11.4	11.4	11.7	11.5
Gross Domestic Investment	25.3	25.1	22.2	25.7	31.7	30.0	25.6	27.7	31.2	35.6	31.3	29.1	27.0	
Fixed investment	22.9	21.5	20.0	23.4	25.3	25.5	24.1	26.7	30.8	32.8	31.9	28.9	30.3	31.8
Change in stocks	2.4	3.6	2.2	2.3	6.3	4.5	1.5	1.1	0.4	2.9	-0.7	0.3	-3.3	-4.2
Exports of goods and NFS	14.0	15.3	19.7	29.3	27.6	27.1	30.9	31.2	30.8	27.3	33.7	36.8	36.1	37.4
Imports of goods and NFS	23.5	25.7	24.4	32.3	38.9	35.8	33.2	33.1	34.8	34.5	41.4	42.2	38.5	38.2
Statistical discrepancy	-0.5	-0.1	-0.6	0.8	0.4	-0.8	0.5	0.3	0.4	-0.4	0.0	0.2	-0.1	-0.3
<u>Gross Domestic Product</u>	<u>99.6</u>	<u>100.1</u>	<u>100.4</u>	<u>100.7</u>	<u>100.9</u>	<u>101.4</u>	<u>100.0</u>	<u>98.6</u>	<u>99.1</u>	<u>99.9</u>	<u>101.7</u>	<u>102.2</u>	<u>102.1</u>	<u>102.0</u>
Net factor income	0.4	-0.1	-0.4	-0.7	-0.9	-1.4	0.0	1.4	0.9	0.1	-1.7	-2.2	-2.1	-2.0
<u>Gross National Product</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

P = Preliminary

Source: Data provided by Bank of Korea.

Table A3.2: GNP BY EXPENDITURE CATEGORY (1980 DATA BASE) CONSTANT PRICES, 1970-83

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983P
Constant Prices														
Consumption	15,023.85	16,399.93	17,180.04	18,570.57	20,040.84	21,126.84	22,813.17	24,437.60	26,962.83	29,018.00	29,074.37	30,008.85	31,293.11	33,318.98
Private consumption	12,675.45	13,864.99	14,572.17	15,918.51	17,171.99	18,082.61	19,589.91	20,920.38	22,989.11	25,039.55	24,821.18	25,668.10	26,856.27	28,682.44
Public consumption	2,348.40	2,534.94	2,607.87	2,652.06	2,918.75	3,044.23	3,223.26	3,517.22	3,973.72	3,978.45	4,247.09	4,340.75	4,436.84	4,636.54
Gross Domestic Investment	4,052.39	4,635.02	4,164.08	5,474.55	7,112.94	7,234.70	8,412.36	10,366.55	12,733.95	15,246.68	11,630.16	11,890.39	12,490.60	14,217.34
Fixed investment	3,606.71	3,830.43	3,842.23	4,908.65	5,391.86	5,971.32	7,107.47	9,168.85	12,226.62	13,281.01	11,873.95	11,479.32	12,984.46	15,136.41
Change in stocks	445.68	804.59	321.85	565.90	1,721.08	1,263.38	1,304.89	1,197.70	507.33	1,965.67	-243.79	411.07	-493.86	-919.07
Exports of goods and NPS	1,972.42	2,385.36	3,257.63	5,059.22	4,916.32	5,699.51	8,068.28	9,894.65	11,861.88	11,413.44	12,520.23	14,683.53	15,595.06	17,801.51
Imports of goods and NPS	3,874.64	4,684.15	4,726.89	6,463.09	7,552.19	7,562.47	9,601.20	11,851.89	15,287.94	16,602.40	15,394.62	16,215.83	16,595.39	18,630.62
Statistical discrepancy	15.54	34.08	11.29	112.96	36.67	-90.92	67.82	131.93	48.83	-93.78	-0.87	85.59	-96.71	-61.68
Gross Domestic Product	17,189.56	18,770.24	19,886.15	22,754.21	24,554.58	26,407.66	29,760.43	32,978.84	36,319.55	38,981.94	37,830.27	40,452.53	42,686.67	46,645.53
Net factor income	94.72	27.18	-17.50	-76.42	-129.35	-294.17	43.35	611.39	532.03	267.24	-625.29	-943.39	-950.01	-1,010.92
Gross National Product	17,284.28	18,797.42	19,868.65	22,677.79	24,425.23	26,113.49	29,803.78	33,590.23	36,851.58	39,249.18	37,204.98	39,509.14	41,736.66	45,634.61
Growth Rate (% p.a. at Constant Prices)														
Consumption		9.2	4.8	8.1	7.9	5.4	8.0	7.1	10.3	7.6	0.2	3.2	4.3	6.4
Private consumption		9.4	5.1	9.2	7.6	5.6	8.3	6.8	9.9	8.9	-0.8	3.4	4.6	8.8
Public consumption		7.9	2.9	1.7	10.1	4.3	5.9	9.1	13.0	0.1	6.8	2.2	2.2	4.5
Gross Domestic Investment		14.4	-10.2	31.5	29.9	1.7	16.3	23.2	22.8	19.7	-23.7	2.2	5.0	13.8
Fixed investment		6.2	0.3	27.8	9.8	10.7	19.0	29.0	33.3	8.6	-10.6	-3.3	13.1	16.6
Change in stocks		80.5	-60.0	75.8	204.1	-26.6	3.3	-8.2	-57.6	287.5	-112.4	-268.6	-220.1	86.1
Exports of goods and NPS		20.9	36.6	55.3	-2.8	15.9	41.6	22.6	19.9	-3.8	9.7	17.3	6.2	14.1
Imports of goods and NPS		20.9	0.9	36.7	16.9	0.1	27.0	23.4	29.0	8.6	-7.3	5.3	2.3	12.3
Statistical discrepancy		-	-	-	-	-	-	-	-	-	-	-	-	-
Gross Domestic Product		9.2	5.9	14.4	7.9	7.3	12.7	10.8	10.1	7.3	-3.0	6.9	5.5	9.27
Net factor income		-	-	-	-	-	-	-	-	-	-	-	-	-
Gross National Product		8.8	5.7	14.1	7.7	6.9	14.1	12.7	9.7	6.5	-5.2	6.2	5.6	9.34

P = Preliminary

Source: Data provided by Bank of Korea.

Table A3.3: GNP (AT MARKET PRICES) BY INDUSTRIAL ORIGIN (1980 DATA BASE) CURRENT PRICES, 1970-83

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983P
Current Prices														
Agriculture, forestry & fishing	721.09	902.94	1,098.71	1,328.56	1,857.51	2,495.75	3,262.74	3,933.20	4,849.84	5,771.59	5,372.45	7,403.13	7,680.30	8,166.53
Mining & quarrying	38.50	43.20	46.16	60.34	93.29	150.65	164.46	262.27	336.35	357.76	520.12	723.11	767.33	837.53
Manufacturing	568.39	707.82	918.22	1,335.02	1,906.37	2,623.72	3,780.58	4,845.90	6,674.32	8,598.63	10,706.37	13,081.48	14,487.93	16,338.21
Electricity, gas & water	44.25	54.13	69.43	77.60	67.65	126.70	178.95	268.61	274.11	519.42	733.60	948.46	1,146.32	1,318.59
Construction	144.84	160.91	184.28	251.61	336.57	487.60	663.42	1,052.61	1,891.82	2,714.75	3,142.44	3,367.53	4,107.13	4,948.43
Wholesale & retail trade, restaurants & hotels	493.65	616.00	783.23	1,069.58	1,555.59	1,966.60	2,540.77	3,105.15	4,089.41	5,367.46	6,338.14	7,768.99	8,689.98	9,901.86
Transport, storage & communications	179.49	221.00	266.83	361.86	460.63	601.95	806.39	1,116.39	1,560.24	2,135.79	2,859.60	3,848.55	4,570.15	5,047.39
Financing, insurance, real estate & busines. services	98.80	126.94	148.75	191.74	292.43	396.57	532.23	764.63	1,156.66	1,490.26	2,410.98	2,577.74	2,869.03	3,119.77
Ownership of dwellings	80.61	98.91	119.54	141.23	187.33	240.19	314.54	404.04	525.63	752.76	1,054.52	1,213.39	1,408.22	1,695.14
Public administration & defense	132.18	160.03	192.57	204.34	266.73	386.25	573.45	776.78	984.83	1,253.15	1,648.54	2,079.01	2,483.13	2,690.09
Community, social & personal services	222.24	286.67	341.79	393.58	544.63	758.91	1,064.98	1,329.12	1,674.07	2,253.31	3,043.51	3,786.68	4,668.74	5,390.98
Rest of the world	11.89	-3.18	-15.51	-37.00	-65.63	-142.66	-1.40	256.71	208.02	33.84	-625.29	-1,023.98	-1,091.66	-1,174.79
Gross National Product	2,735.93	3,375.37	4,154.02	5,378.46	7,503.10	10,092.23	13,881.11	18,115.41	24,225.3	31,248.72	37,204.98	45,775.09	51,786.6	57,442.2
Composition (% at Current Prices)														
Agriculture, forestry & fishing	26.4	26.8	26.4	24.7	24.8	24.7	23.5	21.7	20.0	18.5	14.4	16.2	14.8	14.0
Mining & quarrying	1.4	1.3	1.1	1.1	1.2	1.5	1.2	1.4	1.4	1.1	1.4	1.6	1.5	1.4
Manufacturing	20.8	21.0	22.1	24.8	25.4	26.0	27.2	26.8	27.6	27.5	28.8	28.6	28.0	28.0
Electricity, gas & water	1.6	1.6	1.7	1.4	0.9	1.3	1.3	1.5	1.1	1.7	2.0	2.1	2.2	2.3
Construction	5.3	4.8	4.4	4.7	4.5	4.8	4.8	5.8	7.8	8.7	8.4	7.4	7.9	8.5
Wholesale & retail trade, restaurants & hotels	18.0	18.2	18.9	19.9	20.7	19.5	18.3	17.1	16.9	17.2	17.0	17.0	16.8	17.0
Transport, storage & communications	6.6	6.5	6.4	6.7	6.1	6.0	5.8	6.2	6.4	6.8	7.7	8.4	8.8	8.7
Financing, insurance, real estate & business services	3.6	3.8	3.6	3.6	3.9	3.9	3.8	4.2	4.8	4.8	6.5	5.6	5.5	5.4
Ownership of dwellings	2.9	2.9	2.9	2.6	2.5	2.4	2.3	2.2	2.2	2.4	2.8	2.7	2.7	2.9
Public administration & defense	4.8	4.7	4.6	3.8	3.6	3.8	4.1	4.3	4.1	4.0	4.4	4.5	4.8	4.6
Community, social & personal services	8.1	8.5	8.2	7.3	7.3	7.5	7.7	7.3	6.9	7.2	8.2	8.3	9.0	9.2
Gross National Product	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

P = Preliminary

Source: Data provided by Bank of Korea.

Table A3.4: GNP (AT MARKET PRICES) BY INDUSTRIAL ORIGIN (1980 DATA BASE) CONSTANT PRICES, 1970-83

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983P
Constant Prices														
Agriculture, forestry & fishing	4,966.49	5,121.98	5,271.60	5,598.74	6,013.18	6,307.99	6,900.31	7,077.32	6,429.42	6,862.06	5,372.45	6,687.74	6,962.48	7,441.15
Mining & quarrying	364.23	370.54	362.30	424.93	444.02	514.77	518.93	580.75	611.06	568.22	520.12	603.94	580.81	617.37
Manufacturing	2,458.50	2,918.30	3,349.48	4,351.16	5,032.36	5,628.98	6,974.30	8,090.19	9,815.18	10,825.45	10,706.37	11,479.33	11,933.31	13,227.49
Electricity, gas & water	164.27	197.57	220.44	270.56	303.57	361.73	421.38	496.42	582.08	682.44	733.60	804.47	872.31	979.54
Construction	1,209.00	1,198.50	1,209.16	1,540.49	1,582.09	1,800.99	1,988.33	2,513.78	3,094.95	3,186.67	3,142.44	2,972.62	3,565.89	4,295.29
Wholesale & retail trade, restaurants & hotels	2,679.58	3,174.16	3,488.39	4,095.05	4,357.16	4,651.06	5,228.24	5,665.07	6,321.52	6,575.59	6,338.14	6,740.80	7,043.04	7,765.15
Transport, storage & communications	777.86	889.81	969.92	1,217.66	1,306.39	1,446.75	1,670.92	2,030.11	2,381.93	2,789.52	2,859.60	3,100.04	3,274.99	3,533.28
Financing, insurance, real estate & business services	692.90	766.77	773.24	849.85	978.10	1,038.51	1,215.79	1,481.34	1,798.62	1,951.85	2,410.98	2,142.30	2,255.18	2,362.48
Ownership of dwellings	732.84	760.84	786.46	811.66	840.04	861.64	897.69	927.55	968.88	1,017.90	1,054.52	1,076.40	1,141.22	1,199.28
Public administration & defense	1,344.60	1,391.78	1,376.51	1,377.37	1,396.82	1,423.76	1,460.72	1,502.02	1,541.65	1,590.04	1,648.54	1,675.65	1,715.92	1,736.84
Community, social & personal services	1,799.29	1,979.99	2,078.65	2,216.74	2,300.85	2,371.48	2,483.82	2,614.29	2,774.26	2,932.20	3,043.51	3,169.24	3,341.52	3,487.66
Rest of the world	94.72	27.18	-17.50	-76.42	-129.35	-294.17	43.35	611.39	532.03	267.24	-625.29	-943.39	-950.01	-1,010.92
Gross National Product	17,284.28	18,797.42	19,868.65	22,677.79	24,425.23	26,113.49	29,803.78	33,590.23	36,851.58	39,249.18	37,204.98	39,509.14	41,736.66	45,634.61
Growth Rate (% p.a. at Constant Prices)														
Agriculture, forestry & fishing		3.1	2.9	6.2	7.4	4.9	9.4	2.6	-9.2	6.7	-21.7	24.5	4.1	6.8
Mining & quarrying		1.7	-2.2	17.3	4.5	15.9	0.8	11.9	5.2	-7.0	-8.5	16.1	-3.8	6.7
Manufacturing		18.7	14.8	29.9	15.7	11.9	23.9	16.0	21.3	10.3	-1.1	7.2	4.0	10.8
Electricity, gas & water		20.3	11.6	22.7	12.2	19.2	16.5	17.8	17.3	17.2	7.5	9.7	8.4	12.3
Construction		-0.9	0.9	27.4	2.7	13.8	10.4	26.4	23.1	3.0	-1.4	-9.4	20.0	20.5
Wholesale & retail trade, restaurants & hotels		18.5	9.9	17.4	6.4	6.7	12.4	8.4	11.6	4.0	-3.6	6.4	4.5	10.3
Transport, storage & communications		14.4	9.0	25.5	7.3	10.7	15.5	21.5	17.3	17.1	2.5	8.4	5.6	7.9
Financing, insurance, real estate & business services		10.7	0.8	9.9	15.1	6.2	17.1	21.8	21.4	8.5	23.5	-11.1	5.3	4.8
Ownership of dwellings		3.8	3.4	3.2	3.5	2.6	4.2	3.3	4.5	5.1	3.6	2.1	6.0	5.1
Public administration & defense		3.5	-1.1	0.1	1.4	1.9	2.6	2.8	2.6	3.1	3.7	1.6	2.4	1.2
Community, social & personal services		10.0	5.0	6.6	3.8	3.1	4.7	5.3	6.1	5.7	3.8	4.1	5.4	4.4
Gross National Product		8.8	5.7	14.1	7.7	6.9	14.1	12.7	9.7	6.5	-5.2	6.2	5.6	9.34

P - Preliminary

Source: Data provided by Bank of Korea.

Table A3.5: GDP (AT FACTOR COST) BY INDUSTRIAL ORIGIN (1980 DATA BASE) CURRENT PRICES, 1970-82

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Current Prices													
Agriculture, forestry & fishing	720.56	902.22	1,097.86	1,327.61	1,856.24	2,494.62	3,260.98	3,922.73	4,833.68	5,752.32	5,344.15	7,368.33	7,642.74
Fishing	46.89	65.31	75.90	125.25	124.97	186.34	225.90	368.16	406.04	563.44	512.49	705.29	710.06
Mining & quarrying	39.12	44.36	47.98	62.77	100.98	156.71	170.35	270.25	343.80	381.07	581.93	762.84	795.79
Manufacturing	446.55	556.55	752.71	1,129.14	1,544.29	2,038.53	3,038.24	3,882.33	5,255.88	6,791.44	8,432.28	10,245.87	11,232.70
Electricity, gas & water	36.73	45.36	58.76	64.62	57.66	109.39	163.99	244.33	266.63	500.90	700.96	869.82	1,090.51
Electricity & gas	29.77	36.04	48.60	53.18	44.82	96.09	140.39	217.62	238.78	466.70	660.12	812.53	1,001.86
Construction	141.91	157.36	180.50	247.14	330.52	475.78	646.44	1,029.07	1,851.81	2,618.18	2,994.25	3,194.52	3,900.85
Wholesale & retail trade, restaurants & hotels	426.56	547.11	703.50	963.41	1,503.93	1,779.24	2,142.97	2,582.05	3,328.32	4,334.12	5,146.80	6,279.45	6,912.81
Transport, storage & communications	160.37	197.35	244.14	330.78	431.44	561.67	739.10	1,031.31	1,445.99	1,978.08	2,595.30	3,519.90	4,172.48
Transport & storage	137.49	170.43	211.98	288.01	378.24	469.55	612.09	851.64	1,214.60	1,691.99	2,150.12	2,964.04	3,290.67
Financing, insurance, real estate & business services	83.43	109.62	127.88	154.92	239.20	325.44	445.59	635.32	980.07	1,309.82	2,189.18	2,311.15	2,440.28
Ownership of dwellings	75.52	92.51	108.69	128.19	169.04	205.01	264.94	355.00	473.83	662.70	921.20	1,042.88	1,207.81
Public administration & defense	131.87	159.66	192.17	203.90	266.10	385.49	572.60	775.87	983.82	1,251.15	1,646.29	2,076.41	2,480.30
Community, social & personal services	205.99	267.76	319.22	367.04	505.82	709.36	993.75	1,262.66	1,634.82	2,172.00	2,912.30	3,638.33	4,484.02
Education	81.71	109.24	134.29	154.23	209.05	319.80	506.71	675.64	862.50	1,091.97	1,437.57	1,863.32	2,334.04
Gross Domestic Product at F.C.	2,468.61	3,079.88	3,833.41	4,979.52	7,005.22	9,241.24	12,438.95	15,990.92	21,398.65	27,751.78	33,484.64	41,309.50	46,360.29
Composition (% at Current Prices)													
Agriculture, forestry & fishing	29.2	29.3	28.6	26.7	26.5	27.0	26.2	24.5	22.6	20.7	16.0	17.8	16.5
Fishing	1.9	2.1	2.0	2.5	1.8	2.0	1.8	2.3	1.9	2.0	1.5	1.7	1.5
Mining & quarrying	1.6	1.4	1.3	1.3	1.4	1.7	1.4	1.7	1.6	1.4	1.7	1.8	1.7
Manufacturing	18.1	18.1	19.6	22.7	22.0	22.1	24.4	24.3	24.6	24.5	25.2	24.8	24.2
Electricity, gas & water	1.5	1.5	1.5	1.3	0.8	1.2	1.3	1.5	1.2	1.8	2.1	2.1	2.4
Electricity & gas	1.2	1.2	1.3	1.1	0.6	1.0	1.1	1.4	1.1	1.7	2.0	2.0	2.2
Construction	5.7	5.1	4.7	5.0	4.7	5.1	5.2	6.4	8.7	9.4	8.9	7.7	8.4
Wholesale & retail trade, restaurants & hotels	17.3	17.8	18.4	19.3	21.5	19.3	17.2	16.1	15.6	15.6	15.4	15.2	14.9
Transport, storage & communications	6.5	6.4	6.4	6.6	6.2	6.1	5.9	6.4	6.8	7.1	7.8	8.3	9.0
Transport & storage	5.6	5.5	5.5	5.8	5.4	5.1	4.9	5.3	5.7	6.1	6.4	7.2	7.1
Financing, insurance, real estate & business services	3.4	3.6	3.3	3.1	3.4	3.5	3.6	4.0	4.0	4.7	6.5	5.6	5.3
Ownership of dwellings	3.1	3.0	2.8	2.6	2.4	2.2	2.1	2.2	2.2	2.4	2.8	2.5	2.6
Public administration & defense	5.3	5.2	5.0	4.1	3.8	4.2	4.6	4.9	4.6	4.5	4.9	5.0	5.4
Community, social & personal services	8.3	8.7	8.3	7.4	7.2	7.7	8.0	7.9	7.6	7.8	8.7	8.8	9.7
Education	3.3	3.5	3.5	3.1	3.0	3.5	4.1	4.2	4.0	3.9	4.3	4.5	5.0
Gross Domestic Product at F.C.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Data provided by Bank of Korea.

Table A3.6: GDP (AT FACTOR COST) BY INDUSTRIAL ORIGIN (1980 DATA BASE) CONSTANT PRICES, 1970-82

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Constant Prices													
Agriculture, forestry & fishing	4,944.51	5,097.79	5,245.63	5,570.86	5,983.1	6,276.27	6,866.24	7,044.76	6,396.64	6,825.22	5,344.15	6,653.47	6,926.26
Fishing	286.75	285.60	339.58	403.42	470.79	460.90	480.26	485.54	459.81	496.60	512.49	590.90	600.95
Mining & quarrying	407.87	414.80	405.67	475.85	497.26	576.32	580.93	650.06	683.86	635.99	581.93	675.62	649.95
Manufacturing	1,939.30	2,301.95	2,642.64	3,432.79	3,971.74	4,444.38	5,506.59	6,387.65	7,748.22	8,546.29	8,452.28	9,060.84	9,423.27
Electricity, gas & water	156.87	188.71	210.60	258.41	289.94	345.61	402.24	474.31	556.37	652.06	700.96	768.95	833.54
Electricity & gas	144.93	174.79	195.24	241.71	271.68	322.75	375.03	444.78	523.06	614.07	660.12	722.17	783.55
Construction	1,152.80	1,142.42	1,152.70	1,468.54	1,508.19	1,716.32	1,894.82	2,395.05	2,948.31	3,036.76	2,994.25	2,832.56	3,399.07
Wholesale & retail trade, restaurants & hotels	2,175.09	2,577.48	2,832.65	3,325.53	3,538.36	3,775.43	4,243.58	4,600.04	5,133.65	5,339.00	5,146.80	5,476.20	5,722.63
Transport, storage & communications	706.64	808.40	881.16	1,105.86	1,186.59	1,313.56	1,517.16	1,843.35	2,162.25	2,532.00	2,595.30	2,813.31	2,970.86
Transport & storage	627.12	718.68	770.42	975.35	1,020.22	1,119.18	1,275.87	1,539.97	1,834.10	2,133.06	2,150.12	2,317.83	2,477.76
Financing, insurance, real estate & business services	629.45	696.80	702.37	771.90	888.46	943.54	1,104.89	1,345.76	1,633.75	1,772.62	2,189.18	1,946.18	2,049.33
Ownership of dwellings	639.48	663.78	686.35	708.31	733.10	752.16	783.75	809.61	846.04	889.19	921.20	940.55	996.98
Public administration & defense	1,343.99	1,391.03	1,375.73	1,377.11	1,396.39	1,422.92	1,459.92	1,500.80	1,539.82	1,587.55	1,646.29	1,672.63	1,712.77
Community, social & personal services	1,722.17	1,894.39	1,989.11	2,120.39	2,200.97	2,269.20	2,375.85	2,501.77	2,654.38	2,805.68	2,912.30	3,031.70	3,195.41
Education	859.14	928.73	988.17	1,040.54	1,081.12	1,131.93	1,178.34	1,226.65	1,281.85	1,358.76	1,437.57	1,532.45	1,612.14
Gross Domestic Product at F.C.	15,818.17	17,177.55	18,124.61	20,615.55	22,194.10	23,835.71	26,735.97	29,553.16	32,303.29	34,622.36	33,484.64	35,872.01	37,880.07
Growth Rate (% p.a. at Constant Prices)													
Agriculture, forestry & fishing		3.1	2.9	6.2	7.4	4.9	9.4	2.6	-9.2	6.7	-21.7	24.5	4.1
Fishing		-0.4	18.9	18.8	16.7	-2.1	4.2	1.1	-5.3	8.0	3.2	15.3	1.7
Mining & quarrying		1.7	-2.2	17.3	4.5	15.9	0.8	11.9	5.2	-7.0	-8.5	16.1	-3.8
Manufacturing		18.7	14.8	29.9	15.7	11.9	23.9	16.0	21.3	10.3	-1.1	7.2	4.0
Electricity, gas & water		20.3	11.6	22.7	12.2	19.2	16.4	17.9	17.3	17.2	7.5	9.7	8.4
Electricity & gas		20.6	11.7	23.8	12.4	18.8	16.2	18.6	17.6	17.4	7.5	9.4	8.5
Construction		-0.9	0.9	27.4	2.7	13.8	10.4	26.4	23.1	3.0	-1.4	-5.4	20.0
Wholesale & retail trade, restaurants & hotels		18.5	9.9	17.4	6.4	6.7	12.4	8.4	11.6	4.0	-3.6	6.4	4.5
Transport, storage & communications		14.4	9.5	25.5	7.3	10.7	15.5	21.5	17.3	17.1	2.5	8.4	5.6
Transport & storage		14.6	7.2	26.6	4.6	9.7	14.0	20.7	19.1	16.3	0.8	7.8	6.9
Financing, insurance, real estate & business services		10.7	0.8	9.9	15.1	6.2	17.1	21.8	21.4	8.5	23.5	-11.1	5.3
Ownership of dwellings		3.8	3.4	3.2	3.5	2.6	4.2	3.3	4.5	5.1	3.6	2.1	6.0
Public administration & defense		3.5	-1.1	0.1	1.4	1.9	2.5	2.8	2.6	3.1	3.7	1.6	2.4
Community, social & personal services		10.0	5.0	6.6	3.8	3.1	4.7	5.3	6.1	5.7	3.8	4.1	5.4
Education		8.1	6.4	5.3	3.9	4.7	4.1	4.1	4.5	6.0	5.8	6.6	5.2
Gross Domestic Product at F.C.		8.6	5.5	13.7	7.7	7.4	12.2	10.5	9.3	7.2	-3.3	7.1	5.6

Source: Data provided by Bank of Korea.

**Table A3.7: COMPOSITION AND GROWTH OF DOMESTIC CAPITAL FORMATION
BY TYPE OF CAPITAL GOODS**

	1975	1976	1977	1978	1979	1980	1981	1982	1983P
Composition (% , current prices)									
Fixed capital formation	84.9	94.0	96.1	98.8	91.9	102.1	99.0	112.1	115.1
Dwellings	14.9	13.9	16.5	20.5	16.2	18.8	15.5	20.2	23.0
Nonresidential buildings	14.8	17.5	16.0	15.6	17.3	18.8	17.0	20.1	22.0
Other construction and works	15.0	18.4	18.9	16.8	18.1	23.5	25.5	29.6	29.0
Transport equipment	18.4	17.4	13.3	11.9	9.1	10.0	10.5	9.5	10.0
Machinery	21.8	26.8	31.4	34.0	31.2	31.0	30.5	32.7	31.1
Increase in stock	15.1	6.0	3.9	1.2	8.1	-2.1	1.0	-12.1	-15.1
<u>Gross Capital Formation</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
(% of GNP)	30.0	25.6	27.7	31.2	35.6	31.3	29.1	27.0	31.0
Growth Rate (% , 1980 prices)									
Fixed capital formation	10.7	19.0	29.0	33.3	8.6	-10.6	-3.3	13.1	16.6
Dwellings	11.1	-2.4	41.4	49.3	-17.6	-4.9	-18.6	30.7	30.8
Nonresidential buildings	9.8	40.9	-0.4	20.7	10.6	-0.1	-10.1	19.0	25.4
Other construction and works	16.5	13.1	39.8	7.6	19.0	3.8	7.9	17.9	12.3
Transport equipment	0.2	7.3	4.7	23.1	1.0	-15.5	3.2	-13.3	20.8
Machinery and other equipment									
<u>Gross Capital Formation</u>	<u>1.7</u>	<u>16.3</u>	<u>23.2</u>	<u>22.8</u>	<u>19.7</u>	<u>-23.7</u>	<u>2.2</u>	<u>5.0</u>	<u>13.8</u>

P = Preliminary

Source: Bank of Korea, Economic Statistics Yearbook.

**Table A3.8: COMPOSITION AND GROWTH OF DOMESTIC CAPITAL FORMATION
BY TYPE OF PURCHASER**

	1975	1976	1977	1978	1979	1980	1981	1982	1983P
<u>Composition</u> (% , current prices)									
Gross fixed capital formation	84.9	94.0	96.1	98.8	91.9	102.1	99.0	112.1	115.1
Private enterprises and public enterprises	70.3	78.7	81.2	84.6	78.0	85.2	82.2	93.5	97.0
Government enterprises	2.8	2.8	2.1	2.1	2.2	2.8	2.7	3.8	3.6
General government	11.8	12.5	12.8	12.1	11.7	14.1	14.1	14.8	14.5
Increase in stocks	15.1	6.0	3.9	1.2	8.1	-2.1	1.0	-12.1	-15.1
<u>Gross Capital Formation</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
(% of GNP)	30.0	25.6	27.7	31.2	35.6	31.3	29.1	27.0	31.0
<u>Growth Rate</u> (% , 1980 prices)									
Gross fixed capital formation	10.7	19.0	29.0	33.3	8.6	-10.6	-3.3	13.1	16.6
Private enterprises and public enterprises	6.0	20.9	31.4	36.4	9.3	-12.8	-3.6	13.4	17.6
Government enterprises	25.1	9.5	-2.6	33.1	16.5	9.3	1.0	43.9	5.8
General government	37.6	11.6	21.9	16.3	2.7	1.2	-1.9	5.4	12.6
<u>Gross Capital Formation</u>	<u>1.7</u>	<u>16.3</u>	<u>23.2</u>	<u>22.8</u>	<u>19.7</u>	<u>-23.7</u>	<u>2.2</u>	<u>5.0</u>	<u>13.8</u>

P = Preliminary

**Table A3.9: COMPOSITION AND GROWTH OF GROSS DOMESTIC CAPITAL FORMATION
BY INDUSTRIAL USE, 1976-83**

	1976	1977	1978	1979	1980	1981	1982	1983P
Composition (% , current prices)								
Fixed capital formation	94.0	96.1	98.8	91.9	102.1	99.0	112.1	115.1
Agriculture, forestry & fishing	8.8	8.5	7.6	6.1	6.3	6.6	6.8	7.0
Mining & quarrying	1.1	0.7	0.7	0.3	0.3	0.3	0.3	0.3
Manufacturing	20.9	19.0	21.1	19.5	15.2	16.1	15.2	15.2
Electricity, gas & water	9.4	8.3	7.2	8.6	10.5	9.8	11.9	11.8
Construction	1.4	2.4	2.3	2.0	2.5	2.9	3.3	3.5
Wholesale & retail trade, restaurants & hotels	7.0	8.5	6.5	7.8	12.0	11.1	11.6	13.1
Transport, storage & communication	21.8	21.3	22.9	19.7	22.4	21.8	24.8	23.9
Financing, insurance, real estate & business services	1.3	0.9	0.9	0.7	0.8	0.9	1.0	1.0
Ownership of dwellings	13.9	16.6	20.5	16.2	18.8	15.5	20.2	23.1
Public administration	1.9	2.2	3.0	3.9	5.4	6.0	7.1	6.6
Community, social & personal services	6.5	7.7	6.1	7.1	7.9	8.0	9.9	9.6
Increase in stocks	6.0	3.9	1.2	8.1	-2.1	1.0	-12.1	-15.1
Gross Domestic Capital Formation	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
% of GNP	25.6	27.7	31.2	35.6	31.3	29.1	27.0	27.6
Growth Rate (% , 1980 prices)								
Fixed capital formation	19.0	29.0	33.3	8.6	-10.6	-3.3	13.1	16.6
Agriculture, forestry & fishing	23.6	13.5	20.5	-6.1	-13.0	6.2	2.5	17.4
Mining & quarrying	12.7	-6.2	29.1	-42.3	-29.6	-6.5	13.6	18.6
Manufacturing	30.2	12.2	53.5	16.6	-38.3	2.1	-6.3	12.3
Electricity, gas & water	63.9	34.6	3.5	42.4	-5.9	-6.1	22.9	12.0
Construction	38.9	106.7	38.5	4.9	-5.2	18.5	10.3	21.9
Wholesale & retail trade, restaurants & hotels	27.5	40.3	1.9	41.6	21.1	-4.8	1.3	28.2
Transport, storage & communication	4.6	26.5	40.9	2.1	-6.9	-1.7	14.0	11.0
Financing, insurance, real estate & business services	6.8	-22.6	33.1	-12.2	-9.2	23.2	5.9	9.4
Ownership of dwellings	-2.4	40.1	49.2	-17.6	-4.9	-18.5	30.7	30.8
Public administration	53.5	44.8	50.6	35.8	14.8	3.7	28.6	3.0
Community, social & personal services	51.6	49.6	2.8	41.9	-9.3	1.7	19.5	8.3
Gross Domestic Capital Formation	16.3	23.2	22.8	19.7	-23.7	2.2	5.0	13.8

P = Preliminary

Source: The Bank of Korea, National Income in Korea.

Table A3.10: AVERAGE INCREMENTAL CAPITAL OUTPUT RATIOS, 1970-81 /a

	1970-73	1974-77	1978-81
Agriculture, forestry & fishing	1.38	6.19	6.13
Mining & quarrying	1.24	1.29	-5.92
Manufacturing	1.63	1.38	5.33
Electricity, gas & water	8.40	8.55	16.47
Construction	0.67	0.30	2.69
Wholesale & retail trade, restaurants & hotels	0.96	1.41	7.96
Transport, storage & communications	8.49	6.21	13.25
Financing, insurance, real estate & business services	0.74	0.49	1.01
Ownership of dwellings	29.88	51.11	59.99
Public administration & defense	9.11	4.68	12.87
Community, social & personal services	2.31	3.96	6.64
<u>Gross Domestic Product at F.C.</u>	<u>2.87</u>	<u>3.28</u>	<u>9.23</u>

/a Changes in output are lagged by one year. Both output and fixed investment are in 1980 constant prices.

Source: Data provided by Economic Planning Board and Bank of Korea.

Table A4.1: BALANCE OF PAYMENTS SUMMARY, 1976-83
(US\$ million)

	1976	1977	1978	1979	1980	1981	1982	1983P
Current account	-314	12	-1,085	-4,151	-5,321	-4,646	-2,650	-1,607
<u>Trade Balance</u>	-591	-477	-1,781	-4,396	-4,384	-3,628	-2,594	-1,700
Exports	7,815	10,047	12,711	14,705	17,214	20,671	20,879	23,204
Imports	8,405	10,523	14,491	19,100	21,598	24,299	23,474	24,904
<u>Service Balance</u>	-72	266	224	-195	-1,386	-1,518	-554	-499
Receipts	1,643	3,027	4,450	4,826	5,363	6,598	7,476	7,185
Payments	1,715	2,761	4,226	5,021	6,749	8,117	8,031	7,684
Transfers (net)	349	223	472	439	449	501	499	592
<u>Long-Term Capital (Net)</u>	1,371	1,313	2,166	2,663	1,857	2,842	1,230	1,304
Loans and investments	1,639	1,972	2,848	2,833	3,030	3,052	2,896	2,552
Amortization	-407	-536	-825	-1,123	-1,085	-1,315	-1,430	-1,622
Exports on credit	14	-93	-124	-70	-243	57	-350	-677
Others	125	-30	267	1,023	155	1,048	114	1,051
Basic balance	1,058	1,325	1,081	-1,488	-3,464	-1,804	-1,419	-303
Short-term capital (net)	357	21	-1,171	844	1,945	-82	4	894
Errors and omissions	-241	-32	-312	-329	-370	-411	-1,296	-975
Overall balance	1,174	1,315	-402	-973	-1,890	-2,297	-2,711	-384
<u>Bank Borrowing (Net)</u>	364	408	866	1,869	2,861	2,703	3,295	245
IMF credit	97	-25	-2	-125	594	628	82	160
Bank loans	-39	86	-70	408	130	782	675	480
Refinance	-131	-3	522	811	742	1,124	1,145	-298
Others	422	350	416	775	1,395	169	1,393	-97
Change in foreign exchange reserves	1,419	1,346	631	771	863	320	93	-74
Foreign exchange reserves	2,961	4,306	4,937	5,708	6,571	6,891	6,984	6,910

P = Preliminary Data.

Source: Bank of Korea.

**Table A4.2: INDICES OF FOREIGN TRADE AND TERMS OF TRADE, 1970-83
(1980 = 100)**

Year	Quantum index		Unit value index		Net barter /a terms of trade	Income terms of trade /b
	Exports	Imports	Exports	Imports		
1970	12.0	29.9	39.9	29.8	133.8	16.1
1971	15.5	36.0	39.4	29.7	132.7	20.6
1972	23.3	37.4	39.9	30.2	132.1	30.8
1973	36.5	47.0	50.4	40.2	125.4	45.8
1974	40.0	49.1	63.8	62.5	102.1	40.8
1975	49.0	50.4	59.2	64.3	92.1	45.1
1976	66.5	62.4	66.2	63.0	105.1	69.9
1977	79.2	75.2	72.4	64.4	112.4	89.0
1978	90.6	98.4	80.1	68.0	117.8	106.7
1979	89.7	110.0	95.8	83.1	115.3	103.4
1980	100.0	100.0	100.0	100.0	100.0	100.0
1981	117.5	111.1	103.2	105.4	97.9	115.0
1982	125.1	111.4	99.7	97.6	102.2	127.9
1983	145.5	126.2	95.9	93.0	103.1	150.0

/a Defined as export price/import price ratio.

/b Export quantum multiplied by net barter terms of trade.

Source: Economic Planning Board, Economic Statistics Yearbook.

Table A4.3: KOREA: INDICES OF EXTERNAL COMPETITIVENESS /a
(1980 = 100)

Period averages	Nominal exchange rate /b (1)	Relative prices /c (2)	Real exchange rate /d (1) x (2)
1970	244.6	49.7	121.5
1971	215.5	53.5	115.3
1972	178.6	57.4	102.4
1973	166.3	54.5	90.7
1974	171.1	58.4	99.9
1975	141.6	66.1	93.6
1976	143.2	70.8	101.4
1977	137.6	72.6	99.9
1978	123.1	78.5	96.6
1979	124.1	86.1	106.9
1980	100.0	100.0	100.0
1981	90.4	112.2	101.4
1982	89.8	114.5	102.8
1983	84.2	115.0	96.8
1980 I	109.1	94.1	103.0
II	102.9	98.0	101.2
III	97.3	101.2	98.8
IV	90.7	106.6	97.0
1981 I	88.5	108.8	96.6
II	90.2	111.4	100.7
III	92.5	114.9	106.5
IV	90.1	114.0	103.0
1982 I	89.4	114.6	102.7
II	89.1	114.8	102.6
III	90.1	114.8	103.8
IV	90.0	114.3	103.1
1983 I	85.7	116.5	100.1
II	84.4	115.4	97.8
III	84.0	114.9	96.8
IV	82.1	113.8	93.4

/a An increase in the index indicates an appreciation of the won.

/b Trade-weighted.

/c Ratio of Korean consumer prices to consumer prices of trading partners.

/d Nominal exchange rate adjusted for relative price changes.

Source: IMF, International Financial Statistics.

Table A4.4: KOREA: EXPORTS AND EXPORT ORDERS, 1978-83
(In % change from preceding year)

	Exports		Export orders /a	
	Value	Volume	Value	Volume
1978				
I	28.3	19.2	19.3	12.6
II	24.5	14.5	18.8	5.8
III	26.2	12.7	30.0	11.3
IV	27.2	16.5	19.3	-1.9
Year	<u>26.5</u>	<u>14.2</u>	<u>21.7</u>	<u>6.6</u>
1979				
I	17.4	-3.4	24.3	-0.6
II	19.7	-1.4	12.9	-6.2
III	24.4	3.2	5.1	-8.7
IV	13.1	-0.7	-1.3	-10.8
Year	<u>18.5</u>	<u>-0.9</u>	<u>9.8</u>	<u>-6.5</u>
1980				
I	21.6	12.0	14.7	8.5
II	14.3	6.5	9.7	4.9
III	12.0	6.6	25.6	20.6
IV	18.1	16.8	49.3	43.2
Year	<u>16.3</u>	<u>10.6</u>	<u>24.4</u>	<u>18.8</u>
1981				
I	22.5	20.3	24.8	18.0
II	30.8	24.9	30.0	22.0
III	23.6	21.8	2.0	-3.9
IV	10.7	7.3	-0.9	-6.2
Year	<u>21.4</u>	<u>18.4</u>	<u>13.0</u>	<u>7.2</u>
1982				
I	5.9	5.1	-7.5	
II	1.9	6.2	-9.0	
III	2.8	8.3	-8.8	
IV	1.2	10.2	-14.9	
Year	<u>2.8</u>	<u>7.4</u>	<u>-10.1</u>	
1983				
I	-1.4	6.2	3.0	
II	10.9	17.6	3.0	
III	11.2	15.7	13.7	
IV	24.9	26.1	19.0	
Year	<u>11.9</u>	<u>17.3</u>	<u>9.2</u>	

/a Arrivals of export letters of credit.

Sources: Bank of Korea, Economic Statistics Yearbook (various issues); data provided by the Korean authorities; and staff estimates.

Table A4.5: MERCHANDISE EXPORTS BY COMMODITY GROUP, 1976-83
(US\$ million)

	1976	1977	1978	1979	1980	1981	1982	1983
Food & live animals	508	945	933	1,082	1,153	1,323	1,081	1,085
Beverages & tobacco	78	108	120	118	124	119	128	126
Crude materials, inedible except fuels	196	300	329	361	333	284	275	291
Mineral fuels, lubricants & related materials	145	117	41	18	33	159	286	537
Animal & vegetable oils & fats	1	5	11	27	13	15	9	4
Chemicals	120	226	341	532	780	682	740	738
Manufactured goods by materials	2,337	3,019	3,784	4,815	6,236	7,215	6,631	6,925
Machinery & transport equipment	1,280	1,741	2,587	3,102	3,451	4,712	6,042	7,858
Miscellaneous manufac- tured articles	3,028	3,544	4,536	4,980	5,298	6,638	6,616	6,798
Not elsewhere classified	23	41	30	22	85	107	47	38
<u>Total</u>	<u>7,715</u>	<u>10,047</u>	<u>12,711</u>	<u>15,056</u>	<u>17,505</u>	<u>21,254</u>	<u>21,853</u>	<u>24,445</u>

Source: The Bank of Korea, Monthly Statistical Bulletin.

Table A4.6: EXPORTS BY MAJOR COMMODITY, 1976-83
(US\$ million)

	1976	1977	1978	1979	1980	1981	1982	1983
Fish, fresh, chilled or frozen	164.6	482.6	420.3	548.7	435.0	530.3	417.5	385.3
Chemical elements & compounds	69.1	105.3	103.0	185.7	210.1	223.9	194.7	229.4
Fertilizers manufactured	11.5	71.2	162.1	222.6	344.4	188.4	208.2	194.2
Rubber tires & tubes	128.9	148.0	213.8	325.0	477.4	459.6	282.4	416.8
Plywood	333.1	319.1	346.1	388.2	304.0	322.7	160.3	69.6
Textile yarn & thread	254.8	250.4	337.7	443.7	623.6	568.2	496.4	544.1
Cotton fabrics, woven	81.4	95.1	104.8	127.3	148.9	143.2	172.3	191.9
Textile fabrics	544.6	609.8	965.8	1,018.1	1,248.1	1,532.0	1,359.4	1,447.5
Cement	109.9	155.0	142.3	114.0	234.7	339.1	332.3	219.7
Ingots of iron or steel	48.8	65.8	26.4	206.0	302.1	390.3	519.1	463.0
Rod & angles of iron or steel	56.3	28.9	43.5	153.7	347.8	290.4	306.2	306.9
Sheets of iron or steel	158.2	165.8	298.2	447.1	557.9	564.4	648.9	560.0
Finished structural parts & structures	17.3	261.5	113.3	101.2	147.4	328.5	393.7	580.6
Office machines	57.8	57.9	70.2	87.6	87.4	91.7	119.0	232.9
TV receivers	72.6	100.3	229.7	299.5	417.1	498.4	378.5	682.9
Radio	91.6	126.0	182.4	282.4	286.7	345.8	297.1	385.3
Telecommunication equipment	141.0	172.7	207.8	273.9	248.4	281.9	289.0	464.8
Thermionic valves	319.4	331.7	371.7	490.8	517.3	525.1	651.0	882.4
Railway vehicles	7.1	41.7	89.9	183.5	261.7	319.2	331.9	212.5
Ships and boats other than warship	276.7	526.3	801.4	514.9	617.6	1,411.4	2,831.7	3,465.4
Clothing of textile fabrics	898.1	992.2	1,249.0	1,501.5	1,588.0	2,060.3	1,983.2	1,832.3
Outer garments, knitted	418.9	445.8	522.9	451.4	498.7	686.4	617.4	605.5
Footwear	398.5	487.6	686.2	728.9	874.4	1,024.1	1,154.4	1,231.9
Gramophone & reproducers	119.4	120.2	134.0	154.4	131.8	155.0	145.7	136.1
Articles of artificial plastics	36.1	52.9	62.3	85.1	104.6	120.5	89.3	37.5
Other exports	2,899.6	3,832.7	4,825.8	5,720.3	6,489.8	7,853.0	7,473.8	8,666.6
Total	7,715.3	10,046.5	12,710.6	15,055.5	17,504.9	21,253.8	21,853.4	24,445.1

Source: The Bank of Korea, Monthly Statistical Bulletin.

Table A4.7: MERCHANDISE EXPORTS BY PRINCIPAL COUNTRIES, 1976-83

	1976	1977	1978	1979	1980	1981	1982	1983
----- US\$ million -----								
United States	2,493	3,119	4,058	4,374	4,607	5,661	6,243	8,245
Japan	1,802	2,148	2,627	3,353	3,039	3,503	3,388	3,404
Hongkong	325	342	385	531	823	1,155	904	818
Taiwan	86	103	140	161	216	263	207	150
Indonesia	49	69	103	195	366	370	383	252
United Kingdom	254	304	393	542	573	705	1,103	1,005
Germany	398	480	663	845	875	804	758	775
Others	2,308	3,482	4,342	5,055	7,006	8,793	8,867	9,796
<u>Total</u>	<u>7,715</u>	<u>10,047</u>	<u>12,711</u>	<u>15,056</u>	<u>17,505</u>	<u>21,254</u>	<u>21,853</u>	<u>24,445</u>
----- % of total -----								
United States	32.3	31.0	31.9	29.1	26.3	26.6	28.6	33.7
Japan	23.4	21.4	20.7	22.3	17.4	16.5	15.5	13.9
Hongkong	4.2	3.4	3.0	3.5	4.7	5.4	4.1	3.3
Taiwan	1.1	1.0	1.1	1.1	1.2	1.2	0.9	0.6
Indonesia	0.6	0.7	0.8	1.3	2.1	1.7	1.8	1.0
United Kingdom	3.3	3.0	3.1	3.6	3.3	3.3	5.0	4.1
Germany	5.2	4.8	5.2	5.6	5.0	3.8	3.5	3.2
Others	29.9	34.7	34.2	33.6	40.0	41.4	40.6	40.1

Source: Economic Planning Board, Major Statistics of Korean Economy.

Table A4.8: MERCHANDISE IMPORTS BY COMMODITY GROUP, 1976-83

	1976	1977	1978	1979	1980	1981	1982	1983
Food & live animals	627	715	931	1,432	1,789	2,721	1,561	1,715
Beverages & tobacco	30	34	52	71	85	68	10	30
Crude materials, inedible except fuels	1,565	1,941	2,395	3,260	3,634	3,630	3,370	3,480
Mineral fuels, lubricants & related materials	1,747	2,179	2,453	3,779	6,638	7,765	7,593	6,958
Animal & vegetable oils & fats	63	86	104	152	119	137	137	141
Chemicals	866	1,005	1,298	2,009	1,836	2,109	2,084	2,281
Manufactured goods by materials	1,146	1,518	2,225	2,722	2,436	2,775	2,610	3,000
Machinery & transport equipment	2,387	2,908	4,947	6,125	4,977	6,000	6,009	7,556
Miscellaneous manufac- tured articles	333	411	557	718	686	787	784	942
Not elsewhere classified	10	13	11	71	93	141	93	93
<u>Total</u>	<u>8,774</u>	<u>10,811</u>	<u>14,972</u>	<u>20,339</u>	<u>22,292</u>	<u>26,131</u>	<u>24,251</u>	<u>26,192</u>

Source: The Bank of Korea, Monthly Statistical Bulletin.

Table A4.9: IMPORTS BY MAJOR COMMODITY, 1976-83
(US\$ million)

	1976	1977	1978	1979	1980	1981	1982	1983
Food grains	447.2	439.2	466.8	733.7	1,071.2	1,929.1	835.0	981.8
Raw sugar beet & cane	95.7	102.7	143.2	165.2	491.9	427.2	214.5	256.1
Crude rubber	90.3	117.8	163.1	235.4	276.8	241.8	182.8	217.8
Wood	418.2	533.6	698.8	975.1	876.8	676.3	640.7	625.6
Pulp	88.2	100.9	121.2	175.5	225.8	247.5	177.2	174.6
Wool & other animal hair	62.9	76.8	93.7	117.5	136.7	179.2	180.6	168.2
Raw cotton	307.7	373.6	447.5	461.6	604.1	623.6	529.1	533.6
Iron & steel scrap	109.7	147.7	173.0	221.2	286.3	229.6	205.4	198.2
Petroleum & petroleum products	1,657.6	2,064.8	2,312.1	3,415.6	6,163.5	6,917.8	6,740.3	6,194.6
Organic chemicals	424.1	477.7	559.4	960.0	950.0	996.8	978.9	1,022.0
Inorganic chemicals	67.8	71.1	96.4	137.6	130.6	130.4	170.0	194.6
Plastic materials	124.7	186.6	273.6	423.0	256.4	297.0	315.7	400.1
Textile yarn & thread	68.3	97.1	123.1	121.8	110.4	166.8	187.2	157.8
Textile fabrics, woven	164.2	159.7	167.6	198.4	192.4	212.8	198.8	211.2
Ingots of iron or steel	189.2	272.0	416.5	503.2	487.0	380.5	200.2	375.4
Plates & sheets of iron or steel	84.6	123.3	305.7	194.9	185.0	233.7	200.0	208.5
Power-generating machinery	122.5	246.4	373.7	648.5	451.2	563.7	495.2	488.4
Office machines	51.8	68.8	103.0	138.4	157.0	179.0	247.9	354.0
Metalworking machinery	160.2	237.8	390.9	418.9	356.6	258.5	121.0	173.8
Textile machinery	125.8	180.2	249.0	336.0	162.3	186.1	211.3	189.4
Heating & cooling equipment	124.3	57.7	308.1	313.3	184.5	255.9	174.5	141.0
Mechanical handling equipment	93.2	123.9	240.9	183.5	129.9	182.3	212.6	186.3
Electric power machinery	172.8	216.5	357.0	492.7	357.1	438.3	486.0	505.3
Telecommunications apparatus	161.8	141.7	213.9	256.2	317.9	461.9	514.4	584.0
Thermionic valves	286.8	294.0	385.7	468.0	527.0	611.6	637.9	922.6
Electrical measuring & controlling instruments	42.4	50.2	65.6	112.0	102.3	109.4	137.8	168.4
Aircraft	28.7	90.2	206.1	395.3	356.9	419.7	71.1	138.1
Ships & boats other than warship	396.6	193.2	401.8	315.8	472.0	873.0	1,119.2	1,797.9
Professional & scientific instruments	138.6	181.9	273.6	367.4	367.3	395.7	391.8	462.6
Other imports	2,969.7	3,383.6	4,980.9	6,853.5	3,904.8	7,306.2	7,473.7	8,160.3
Total	8,773.6	10,810.5	14,971.9	20,338.6	22,291.7	26,131.4	24,250.8	26,192.2

/a Nine months only.

Source: The Bank of Korea, Monthly Statistical Bulletin.

Table A4.10: MERCHANDISE IMPORTS BY PRINCIPAL COUNTRIES, 1976-83

	1976	1977	1978	1979	1980	1981	1982	1983
US\$ million								
United States	1,963	2,447	3,043	4,603	4,890	6,050	5,956	6,274
Japan	3,099	3,927	5,981	6,657	5,858	6,375	5,305	6,238
Hongkong	37	36	51	88	98	201	244	221
Taiwan	83	109	153	210	313	355	280	289
Indonesia	239	354	408	592	485	385	683	387
United Kingdom	171	148	211	499	304	398	403	468
Germany	238	347	491	844	637	672	680	650
Others	2,944	3,443	4,634	6,846	9,707	11,695	10,700	11,665
<u>Total</u>	<u>8,774</u>	<u>10,811</u>	<u>14,972</u>	<u>20,339</u>	<u>22,292</u>	<u>26,131</u>	<u>24,251</u>	<u>26,192</u>
% of total								
United States	22.4	22.6	20.3	22.6	21.9	23.2	24.6	24.0
Japan	35.3	36.3	40.0	32.7	26.3	24.4	21.9	23.8
Hongkong	0.4	0.3	0.3	0.4	0.4	0.8	1.0	0.8
Taiwan	0.9	1.0	1.0	1.0	1.4	1.4	1.2	1.1
Indonesia	2.7	3.3	2.7	2.9	2.2	1.5	2.8	1.5
United Kingdom	2.0	1.4	1.4	2.5	1.4	1.5	1.7	1.8
Germany	2.7	3.2	3.3	4.2	2.9	2.6	2.8	2.5
Others	33.6	31.9	31.0	33.7	43.5	44.7	44.1	44.5

Source: Economic Planning Board, Major Statistics of Korean Economy.

Table A4.11: INVISIBLE TRADE BY TYPE, /a 1976-83
(US\$ million)

	1976	1977	1978	1979	1980	1981	1982	1983
Receipts								
Foreign travel	275.0	370.0	408.1	326.0	369.3	447.6	502.3	596.2
Transportation	311.2	400.2	511.4	804.0	1,167.0	1,517.3	1,674.8	1,679.7
Insurance	12.0	23.0	27.7	42.9	114.3	41.8	40.3	57.9
Investment income	69.2	140.2	285.8	331.6	552.5	712.8	680.8	581.2
Government transactions	193.9	238.3	291.1	408.3	297.0	352.6	418.6	487.8
Miscellaneous services	709.8	1,658.1	2,688.4	2,573.4	2,337.3	2,799.1	3,246.8	2,851.3
Donations	228.6	268.3	353.2	338.2	332.0	457.3	504.3	577.3
Total	1,799.7	3,098.0	4,565.7	4,824.5	5,169.3	6,328.5	7,067.9	6,831.5
Payments								
Foreign travel	46.2	102.7	208.0	405.3	349.6	439.0	632.2	555.4
Transportation	463.1	640.8	790.4	1,018.2	1,557.3	1,930.7	1,780.3	1,691.7
Insurance	35.9	46.3	62.8	66.1	91.2	92.4	92.1	104.1
Investment income	481.6	659.5	929.8	1,432.5	2,535.0	3,630.9	3,831.3	3,374.7
Government transactions	49.8	56.1	73.6	94.5	132.3	185.4	144.1	138.6
Miscellaneous services	360.8	831.8	1,428.9	1,024.8	862.2	1,219.4	971.9	1,233.6
Donations	13.4	16.9	14.4	55.9	52.7	63.8	121.0	99.7
Total	1,450.8	2,354.1	3,507.9	4,097.3	5,580.2	7,561.6	7,573.0	7,198.0
Net Invisible Trade								
Foreign travel	228.8	267.3	200.1	-79.3	19.7	8.6	-129.9	40.8
Transportation	-151.9	-240.6	-279.0	-214.2	-390.3	-413.4	-105.5	-12.0
Insurance	-23.9	-23.3	-35.1	-23.2	23.1	-50.6	-51.8	-46.2
Investment income	-412.4	-519.3	-644.0	-1,100.9	-1,982.5	-2,918.1	-3,150.5	-2,793.5
Government transactions	144.1	182.2	217.5	313.8	164.7	167.2	274.5	349.2
Miscellaneous services	349.0	826.3	1,259.5	1,548.6	1,475.1	1,579.7	2,274.9	1,617.7
Donations	215.2	251.4	338.8	282.3	279.3	393.5	383.3	477.6
Total	348.9	743.9	1,057.8	727.2	-410.9	-1,233.1	-505.1	-366.5

/a Foreign exchange transactions basis.

Source: The Bank of Korea, Monthly Statistical Bulletin.

Table A4.12: INVESTMENT INCOME
(US\$ million)

	1976	1977	1978	1979	1980	1981	1982	1983 _p
Receipts								
Private sector	69.2	140.2	285.8	331.6	552.5	712.8	680.8	581.2
Interest <u>/a</u>	67.6	127.3	256.5	280.2	459.9	653.6	599.2	509.4
Profits of branches	0.2	4.6	4.5	12.1	21.7	22.5	45.8	33.6
Other	1.4	8.3	24.8	39.3	70.9	36.7	35.8	38.2
Payments								
Private sector	405.6	540.2	754.2	1,190.1	2,214.6	3,247.2	3,417.7	2,907.1
Interest <u>/b</u>	356.7	480.7	682.9	1,111.0	2,101.3	3,079.0	3,276.8	2,809.8
Profits of branches	3.7	5.3	3.9	8.5	18.0	30.1	13.7	37.5
Dividends	32.8	51.6	52.5	39.7	46.0	49.1	33.4	59.8
Public sector								
Interest	75.9	119.3	175.6	242.4	320.5	383.7	413.6	513.8 _{/c}
Subtotal	481.8	659.5	929.8	1,432.5	2,535.1	3,630.9	3,831.3	3,420.9
Net Investment								
Income	<u>-412.3</u>	<u>-519.3</u>	<u>-644.0</u>	<u>-1,100.9</u>	<u>-1,982.6</u>	<u>-2,918.1</u>	<u>-3,150.5</u>	<u>-2,839.7</u>
Private sector	-336.4	-400.0	-468.4	-858.5	-1,662.1	-2,534.4	-2,736.9	-2,325.9
Public sector	-75.9	-119.3	-175.6	-242.4	-320.5	-383.7	-413.6	-513.8

/a Includes interest receipts on foreign bonds, buyers' credits and intrabank loans.

/b Includes interest payments on commercial loans, intrabank loans and other short-term loans.

/c Interest payments on public loans.

Table A4.13: LONG-TERM CAPITAL BALANCE, 1976-83
(US\$ million)

	1976	1977	1978	1979	1980	1981	1982	1983
Loans and Investment								
Public loans	710.7	608.0	817.7	1,085.6	1,518.3	1,704.5	1,847.3	1,523.0
Commercial loans	842.5	1,260.0	1,929.8	1,621.8	1,415.8	1,242.5	918.4	927.7
Direct investment	85.5	104.4	100.5	126.0	96.2	105.4	100.6	101.4
Portfolio investment	74.5	70.0	41.7	42.8	45.7	103.6	43.9	195.9
Repayment (-)	406.6	536.0	825.1	1,122.7	1,084.7	1,315.3	1,430.3	1,622.1
Withdrawals (-)	4.4	10.9	11.8	90.9	90.2	3.4	31.6	32.9
Repayments of portfolio investment (-)	-	-	-	35.3	5.6	43.9	29.4	8.0
Subtotal	<u>1,302.2</u>	<u>1,495.5</u>	<u>2,052.9</u>	<u>1,627.3</u>	<u>1,895.5</u>	<u>1,793.4</u>	<u>1,448.9</u>	<u>1,085.0</u>
Others								
Long-term trade credit	-12.7	-50.7	149.4	42.3	53.2	-11.9	-102.0	-47.6
Export on credit	14.3	-92.7	-123.6	-69.7	-243.5	57.0	-349.9	-677.4
Import prepayments (-)	85.7	132.2	48.0	114.1	28.1	5.3	5.9	6.6
Others	153.1	92.8	135.7	1,177.1	179.4	1,008.7	239.2	937.2
Subtotal	<u>69.0</u>	<u>-182.8</u>	<u>113.5</u>	<u>1,035.6</u>	<u>-39.0</u>	<u>1,048.5</u>	<u>-218.6</u>	<u>218.8</u>
Total	<u>1,371.2</u>	<u>1,312.7</u>	<u>2,166.3</u>	<u>2,662.9</u>	<u>1,856.5</u>	<u>2,841.9</u>	<u>1,230.3</u>	<u>1,303.8</u>

Source: The Bank of Korea, Monthly Statistical Bulletin.

Table A4.14: INTERNATIONAL RESERVES, 1977-83
(US\$ million)

End of period:	1977	1978	1979	1980	1981	1982	1983
<u>Monetary Authorities</u>							
Gold	6	30	31	31	32	31	31
SDRs	12	15	25	13	64	62	64
Reserve position in the Fund							
Foreign exchange	2,955	2,734	2,909	2,912	2,619	2,744	2,283
Subtotal	<u>2,973</u>	<u>2,973</u>	<u>2,990</u>	<u>2,956</u>	<u>2,715</u>	<u>2,837</u>	<u>2,378</u>
Commercial banks	1,333	2,144	2,718	3,615	4,176	4,147	4,532
<u>Gross International Reserves</u>	<u>4,306</u>	<u>4,937</u>	<u>5,708</u>	<u>6,571</u>	<u>6,891</u>	<u>6,984</u>	<u>6,910</u>
Gross international reserves in millions of SDRs /a	3,545	3,790	4,333	5,152	5,920	6,331	6,612
Gross international reserves in months of imports of goods and services	3.9	3.2	2.8	2.8	2.6	2.7	

/a Converted with end-of-period exchange rate.

Sources: Bank of Korea; IMF, International Financial Statistics.

Table A4.15: KOREA: CONSTRUCTION CONTRACTS OVERSEAS

	1977	1978	1979	1980	1981	1982	1983
<u>Contract Value (US\$ mln)</u>							
Middle East	3,623	7,982	6,358	7,953	13,515	10,692	8,854
Other countries	129	163	373	471	819	2,023	1,244
<u>Total</u>	<u>3,752</u>	<u>8,145</u>	<u>6,731</u>	<u>8,424</u>	<u>14,334</u>	<u>12,715</u>	<u>10,098</u>
<u>Work Agreements (no.)</u>							
Middle East	177	214	215	227	264	249	170
Other countries	11	21	16	38	47	61	63
<u>Total</u>	<u>188</u>	<u>235</u>	<u>231</u>	<u>265</u>	<u>311</u>	<u>310</u>	<u>233</u>
<u>Korean Labor Force Overseas</u> (no. of workers at end of period)							
Middle East	52,247	84,289	109,573	131,679	158,497	163,303	153,400
Other countries	17,376	1,584	1,338	4,061	9,537	11,353	12,090
<u>Total</u>	<u>69,623</u>	<u>85,873</u>	<u>110,911</u>	<u>135,740</u>	<u>168,034</u>	<u>174,656</u>	<u>165,490</u>

Source: Ministry of Finance.

**Table A5.1: OUTSTANDING EXTERNAL DEBT BY MATURITY
AND BORROWER, 1977-83 /a**

	1977	1978	1979	1980	1981	1982	1983P
Debt with maturity of more than three years	8,242	10,270	13,199	15,424	18,881	21,352	23,604
Financial institutions	3,299	4,057	5,132	5,818	6,653	8,115	9,049
Public sector	3,837	5,079	5,707	6,269	6,536	6,401	6,266
Private sector	1,106	1,134	2,360	3,337	5,692	6,836	8,289
Debt with maturities of one to three years	350	483	561	617	602	488	1,078
Short-term debt of the private sector /b	1,828	1,041	2,251	4,158	4,110	4,001	4,947
Trade credits	1,492	840	1,811	3,436	3,454	3,339	4,114
Borrowing for oil bill	-	-	-	367	371	447	584
Others	336	201	440	355	285	215	249
Subtotal	<u>10,420</u>	<u>11,794</u>	<u>16,011</u>	<u>20,199</u>	<u>23,593</u>	<u>25,841</u>	<u>29,629</u>
Short-term debt of financial sector	1,095	1,552	2,400	3,417	4,376	6,287	5,639
Refinanced	695	1,216	2,028	2,770	3,892	5,038	4,740
Deposits	326	128	143	200	252	245	263
Others	74	208	229	447	232	1,004	636
Interoffice "A" account of foreign bank branches	792	1,262	1,951	3,036	3,275	3,908	3,489
Use of fund credit	341	263	138	713	1,246	1,259	1,354
Total	<u>12,648</u>	<u>14,871</u>	<u>20,500</u>	<u>27,365</u>	<u>32,490</u>	<u>37,295</u>	<u>40,111</u>
Memorandum item							
Undisbursed loans with maturity of more than three years /a	2,098	3,020	4,191	3,332	5,025	4,252	4,298

P = Preliminary

/a Public and commercial loan and Bank loan.

Source: Ministry of Finance.

Table A5.2: EXTERNAL DEBT INDICATORS, 1977-83

	1977	1978	1979	1980	1981	1982	1983P
----- US\$ billion -----							
Nominal stock of debt, end of period (Short term external debt)	12.6	14.9	20.4 (5.5)	27.3 (9.4)	32.5 (10.2)	37.1 (12.4)	40.1 (12.4)
Stock of debt deflated by:							
Export unit prices (1977=100)	12.6	13.5	15.5	19.7	22.8	27.3	31.2
Import unit prices (1977=100)	12.6	14.1	15.9	16.7	19.0	23.6	27.0
----- % -----							
Ratio of debt <u>/a</u> to GNP	31.0	26.5	28.4	39.1	44.5	49.3	51.7
Ratio of gross international reserves to debt	34.0	33.2	27.8	24.0	21.2	18.7	17.2
Ratio of total debt <u>/a</u> to exports of goods and services	88.7	80.2	90.6	106.0	109.8	123.1	128.1
Ratio of stock of short-term debt <u>/b</u> to imports of goods and services	13.8	13.9	19.3	26.7	26.1	32.3	32.3

P = preliminary.

/a Average stock during the year.

/b Excludes interoffice "A" account of foreign bank branches.

Sources: Ministry of Finance; staff calculations.

Table A5.3: DEBT SERVICE, /a 1977-83
(US\$ million)

	1977	1978	1979	1980	1981	1982	1983P
<u>Interest /b</u>							
Medium- & long-term debt	566	758	994	1,426	1,796	2,297	2,187
Short-term debt	116	214	471	1,165	1,776	1,467	1,169
Subtotal	<u>682</u>	<u>972</u>	<u>1,465</u>	<u>2,591</u>	<u>3,572</u>	<u>3,764</u>	<u>3,356</u>
<u>Amortization /c</u>							
Financial institutions	143	339	191	159	301	354	467
Public sector	100	138	173	257	328	384	494
Private sector	431	685	1,023	834	988	1,046	1,128
Medium-term trade liability	150	201	272	329	382	420	381
Subtotal	<u>824</u>	<u>1,363</u>	<u>1,659</u>	<u>1,579</u>	<u>1,999</u>	<u>2,204</u>	<u>2,470</u>
<u>Total Debt Service</u>	<u>1,506</u>	<u>2,335</u>	<u>3,124</u>	<u>4,170</u>	<u>5,571</u>	<u>5,872</u>	<u>5,826</u>
Debt service ratio of MLT /d	10.6	12.3	13.6	13.3	13.9	15.9	15.4
Debt service ratio (%) /e	11.5	13.6	16.0	18.5	20.4	21.0	19.3
Interest payments ratio (%) /f	5.2	5.7	7.5	11.5	13.1	13.3	11.1
<u>Memorandum Item</u>							
Exports of goods & services	13,074	17,161	19,531	22,577	27,269	28,355	30,211

P = Preliminary

/a Includes IMF.

/b Excludes interest on medium-term liability which is included in amortization.

/c Excludes amortization of debt with maturities of less than one year.

/d Ratio of medium- and long-term debt service to exports of goods and services.

/e Ratio of total debt service to exports of goods and services.

/f Ratio of interest payments to exports of goods and services.

Source: Ministry of Finance; staff calculations.

Table A6.1: PUBLIC SECTOR RESOURCE BALANCE
(% of GNP)

	Central Government /a				Local Government /b		
	1977-81 Actual	1982 Actual	1983 Actual	1984 Budget	1977-81 Actual	1982 Actual	1983 Actual
Current revenue /c	21.0	22.5	21.4	19.4	3.9	4.4	
Tax revenue	16.3	17.5	17.3	16.70	2.1	2.2	
Transfer from other levels of Government	-	-	-	-	3.7	2.1	
Current expenditures /c	16.3	20.1	17.7	15.90	5.0	2.6	
Current balance	4.1	2.4	3.7	3.50	2.6	1.8	
Gross fixed investment	1.8	4.0	1.8	1.60	2.5	2.2	
Overall balance (- deficit)	-3.0	-4.6	1.6	0.60	0.2	-0.4	

/a Includes nonfinancial public enterprises other than communications.

/b General account only.

/c Plan figures for current revenues and expenditures are not strictly comparable owing to differences in the consolidation of subaccounts in the budget.

Source: Economic Planning Board.

Table A6.2: KOREA: SUMMARY OF PUBLIC SECTOR REVENUES AND EXPENDITURES
(Won billion)

	1983 Actual	1984 Budget
Current revenue	12,436	12,236
Current expenditure	10,295	10,028
Savings	2,141 (3.7)	2,183 (3.5)
Capital revenue	168	183
Capital expenditure and net lending	3,260	2,753
Capital balance	3,092	2,570
Overall balance	951 (1.6)	387 (0.6)
Financing	951	387
Domestic	552	685
Foreign	399	298
Memorandum items		
Gross fixed capital formation	1,039 (1.8)	1,013 (1.6)

Notes: (1) Based on data on consolidated central government and nonfinancial public enterprises excluding local government.

(2) Figures in parentheses are ratios to GNP (current market prices): (1982: 51,786.6; 1983: 52,983).

Source: Ministry of Finance.

Table A6.3: TAX REVENUE PROJECTIONS, 1982-86
(Won billion)

	1981 Actual	1982 Actual	1983 Actual	1984 Budget
Total tax revenue	8,172	9,516	11,258	12,027
National tax	7,258	8,397	9,861	10,540
Internal tax	4,596	5,251	6,073	6,455
Customs	890	1,013	1,398	1,580
Defense tax	1,092	1,175	1,297	1,374
Monopoly	680	760	830	846
Education tax	-	198	263	285
Local tax	914	1,119	1,397	1,487
Ratio of tax revenue to GNP (%)				
Total tax	17.9	18.4	19.6	19.1
National tax	15.9	16.2	17.2	16.7
Local tax	2.0	2.2	2.4	2.4
<u>Memorandum Item</u>				
GNP	45,775.1	51,786.6	52,983.0	57,526.0

/a Figures not yet available.

Source: Economic Planning Board; Ministry of Finance.

Table A6.4: 1984 REVENUE IMPACT OF 1982 TAX LAW REVISIONS
(Won million)

Tax/main change	Total	Main tax	Defense surtax
Income tax			
Lowering income tax rate	-43,949	-38,217	-5,732
Widening tax credit	-9,403	-8,548	-855
Mitigating presumptive dividend tax	-14,600	-12,696	-1,904
Subtotal	<u>-67,952</u>	<u>-59,461</u>	<u>-8,491</u>
Corporation tax			
Lowering corporation tax rate	-158,455	-106,560	-51,895
Reducing capital gain tax	-5,000	-4,000	-1,000
Increasing financial income tax	+7,988	+9,129	-1,141
Subtotal	<u>-155,467</u>	<u>-101,431</u>	<u>-54,036</u>
Tax exemption regulation law			
Adjustment of tax exemption criteria	+38,265	+30,698	+7,567
<u>Total</u>	<u>-185,154</u>	<u>-130,194</u>	<u>-54,960</u>

Source: Economic Planning Board.

Table A7.1: KOREA: MONETARY SURVEY, 1978-83

End of period:	1978	1979	1980	1981	1982	1983
----- (In billions of won) -----						
Net foreign assets	<u>725</u>	<u>236</u>	<u>-582</u>	<u>-2,264</u>	<u>-4,340</u>	<u>-5,009</u>
Assets	2,519	2,900	4,806	5,409	5,861	6,461
Liabilities	1,794	2,664	5,388	7,673	10,201	11,469
Net domestic assets	<u>7,204</u>	<u>9,641</u>	<u>13,117</u>	<u>17,935</u>	<u>24,244</u>	<u>27,947</u>
Domestic credit	8,722	11,826	16,778	22,016	27,529	31,847
Public sector	(464)	(335)	(731)	(1,742)	(2,158)	(2,013)
Private sector	(8,258)	(11,491)	(16,047)	(20,274)	(25,371)	(29,834)
Net other items	-1,518	-2,185	-3,661	-4,081	-3,285	-3,900
Broad money	<u>7,929</u>	<u>9,878</u>	<u>12,535</u>	<u>15,671</u>	<u>19,904</u>	<u>22,938</u>
Narrow money	2,714	3,275	3,807	3,982	5,799	6,183
Quasi-money	5,215	6,603	8,728	11,689	14,105	16,155
----- (Percentage change) /a -----						
Net foreign assets	<u>-4.3</u>	<u>-6.1</u>	<u>-8.3</u>	<u>-13.5</u>	<u>-13.3</u>	<u>-3.4</u>
Net domestic assets	<u>39.3</u>	<u>30.7</u>	<u>35.2</u>	<u>38.5</u>	<u>40.3</u>	<u>18.6</u>
Domestic credit	46.7	39.1	50.1	41.8	35.2	21.7
Public sector	(1.7)	(-1.7)	(4.0)	(8.1)	(2.7)	(-0.7)
Private sector	(45.0)	(40.8)	(46.1)	(33.7)	(32.5)	(22.4)
Net other items	-7.4	-8.4	-14.9	-3.3	5.1	-3.1
Broad money	<u>35.0</u>	<u>24.6</u>	<u>26.9</u>	<u>25.0</u>	<u>27.0</u>	<u>15.2</u>

/a Change over preceding 12 months as a percentage of the stock of broad money at the beginning of the period.

Source: Bank of Korea, Monthly Economic Statistics.

Table A7.2: SELECTED INTEREST RATES, DEPOSIT MONEY BANKS, 1979-83
(% p.a.)

Effective from:	1979 Sep	1980 Nov	1981 Nov	1982 Nov	1983 Apr	1983 Nov
Household checking deposits	-/a	-	14.4/b	8.0	8.0	8.0
Notice deposits (more than 30 days)	10.0	10.5	8.3	-/c	-	-
Time deposits						
Over 3 months	15.0	14.8	14.8	7.6	7.6	7.6
Over 6 months	17.1	16.9	15.2	7.6	7.6	7.6
Over 1 year	18.6	19.5	17.4	8.0	8.0	8.0
Savings deposits						
Less than 30 days	5.5	5.5	14.4	} 8.0	8.0	8.0
More than 30 days	12.6	12.3	14.4		8.0	8.0
Installment savings deposits, 3 years	18.2	19.5 (22.5)/d	17.3 (20.3)/d	8.0	8.0	8.0
Workmen's wealth accumulation deposits /e						
2 years	25.7	28.4	28.4	19.5	19.5	19.5
5 years	30.2	33.6	33.6	21.0	21.0	21.0
Memorandum Items						
Selected interest rates on deposits of nonbank financial institutions						
Investment and financial companies						
Bills resold: 1-29 days	20.6	19.2	18.1	9.0	8.5	8.5
60-90 days	24.6	23.1	20.0	11.0	10.5	10.5
Mutual credit cooperatives - time deposits, 1 year	19.8	22.5	19.5	9.0	9.0	9.0

/a Interest rate of 6.0% between April 1977 and April 1979.

/b Established in June 1982.

/c Abolished from June 1982.

/d Special interest rate on household deposits.

/e These rates include only the interest paid by banks and the government subsidy. In addition, employees are encouraged to contribute to the yield on these assets.

Sources: Bank of Korea, Monthly Statistical Bulletin; and data provided by the Korean authorities.

Table A7.3: KOREA: MOVEMENTS OF WHOLESALE AND CONSUMER PRICES, 1978-83 (1980=100)
(% changes) /a

	1978	1979	1980	1981	1982	1983	1983			
							1st qtr	2nd qtr	3rd qtr	4th qtr
Wholesale Prices										
<u>All Commodities</u>	<u>11.6</u>	<u>18.8</u>	<u>38.9</u>	<u>20.4</u>	<u>4.7</u>	<u>0.2</u>	<u>0.4</u>	<u>-0.8</u>	<u>-0.3</u>	<u>0.0</u>
Agricultural & marine foods	33.8	11.4	24.5	27.6	0.3	3.4	4.8	-1.4	-3.1	-2.5
Coal & electric power	19.3	33.2	48.4	28.9	10.9	-0.2	0.1	-0.5	0.4	0.0
Petroleum & related products	3.8	38.4	105.3	34.9	7.8	-5.1	-1.5	-4.0	-0.6	0.2
Producer goods	6.4	24.4	52.0	21.3	5.1	-0.9	-0.2	-1.0	0.1	0.3
Capital goods	2.2	12.6	19.3	11.5	7.4	1.2	-0.1	0.1	1.3	0.6
Consumer goods	20.4	13.4	27.1	20.4	3.7	1.8	1.4	-0.5	-1.3	-0.5
Consumer Prices										
<u>All Items</u>	<u>14.5</u>	<u>18.3</u>	<u>28.7</u>	<u>21.3</u>	<u>7.3</u>	<u>3.4</u>	<u>1.9</u>	<u>0.3</u>	<u>0.1</u>	<u>0.0</u>
Food & beverages	16.7	13.8	26.6	27.5	2.5	1.3	2.7	-0.4	-1.1	-1.0
Excluding food & beverages	12.4	22.6	30.5	18.4	10.9	4.9	1.4	0.8	1.0	0.7

/a Annual data are calculated on year-to-year basis; quarterly data are percent change from preceding quarter.

Source: Bank of Korea, Monthly Statistical Bulletin.

Table A8.1: PRODUCTION AND YIELD OF AGRICULTURAL CROPS

	1970	1975	1979	1980	1981	1982	1983
Production ('000 tons)							
Cereals	6,266	6,568	7,285	4,626	6,145	6,141	6,449
Rice	3,939	4,669	5,565	3,550	5,063	5,175	5,404
Barley	1,974	1,700	1,508	811	859	749	815
Wheat	219	97	42	92	57	66	112
Others	134	102	170	173	166	151	118
Pulses	277	357	325	279	327	308	291
Potatoes /a	2,741	2,613	1,743	1,549	1,663	1,381	1,481
Fruits	423	543	857	833	1,026	1,194	1,400
Vegetables	2,520	4,576	8,044	7,090	7,435	7,871	6,813
Industrial crops	131	208	213	212	..	..
Yield (tons/ha)							
Rice	3.3	3.8	4.5	2.9	4.2	4.4	4.4
Barley	2.2	2.4	3.2	2.4	2.4	2.3	2.5
Wheat	2.3	2.2	3.2	3.3	2.9	3.4	4.2
Corn	1.4	1.7	4.6	4.4	4.4	4.1	3.7
White potatoes	11.3	12.8	10.6	11.9	13.5	15.0	15.5
Sweet potatoes	16.8	20.6	22.6	20.0	22.1	18.9	24.0
Radishes	11.5	37.6	43.9	40.6	42.1	41.0	42.0
Chinese cabbage	11.2	57.7	69.8	63.6	70.7	70.5	70.9
Red pepper	1.4	1.3	1.0	0.9	0.9	1.2	1.6
Apples	10.1	9.1	9.6	8.9	11.2	12.3	14.2
Pears	7.8	5.3	7.1	6.5	7.7	9.9	10.9
Peaches	6.6	6.7	9.0	8.6	8.7	9.4	9.2

/a Unhulled weight.

Source: Ministry of Agriculture and Forestry, Yearbook of Agriculture and Forestry Statistics, 1981, and unpublished data.

Table A8.2: UTILIZATION OF ARABLE LAND
('000 ha)

	1970	1975	1979	1980	1981	1982	1983
Cultivated land area	2,298	2,240	2,207	2,196	2,188	2,180	2,169
Planted area	3,264	3,144	2,909	2,765	2,774	2,678	2,698
<u>Cereals</u>	<u>2,160</u>	<u>2,111</u>	<u>1,771</u>	<u>1,647</u>	<u>1,649</u>	<u>1,585</u>	<u>1,623</u>
Rice	1,203	1,218	1,233	1,233	1,224	1,188	1,228
Barley	730	711	473	331	353	317	325
Wheat	97	44	13	28	20	20	26
Others	130	138	52	55	52	60	44
Pulses	365	333	277	256	272	253	244
Potatoes	180	146	95	92	91	81	72
Fruits	60	74	96	99	100	101	105
Vegetables	254	244	339	259	365	343	322
Industrial crops	205	192	195	212	212	..	..
Others	39	44	136	54	101	..	..

Sources: Ministry of Agriculture and Forestry, Yearbook of Agriculture and Forestry Statistics, 1982; Office of Rural Development, Major Indicators of Korean Agriculture, August 1981.

Table A8.3: RICE PRICES
(US\$/ton)

Rice year	Government purchase price	Handling costs	Gov't selling price	Fiscal subsidy	Open market price	Import price c.i.f.	Share of rice production marketed by Government(%)
1970/71	234	22	218	38	275 (1.99)	138	9
1971/72	274	23	298	-1	310 (1.93)	161	12
1972/73	311	25	299	37	320 (1.37)	234	13
1973/74	294	24	291	27	460 (0.91)	507	11
1974/75	407	38	336	109	482 (1.25)	387	16
1975/76	504	52	432	124	580 (2.42)	240	17
1976/77	599	63	504	158	642 (2.93)	219	20
1977/78	678	87	579	186	752 (2.30)	327	23
1978/79	775	131	684	222	976 (3.32)	294	23
1979/80	693	135	606	222	1,014 (2.61)	388	23
1980/81	816	182	785	213	1,027 (2.33)	440	15
1981/82	871	170	889	152	884 (2.43)	364	18
1982/83	907	152	847	212	838 (3.13)	268	21
1983/84 <u>/a</u>	879	<u>198/b</u>	821	256	826 (2.42)	342	23

/a Based on December 1983.

/b Including interest on Grains Purchasing Bonds.

Note: Figures in parentheses are ratios to c.i.f. import price. Fiscal subsidy equals Government purchase price minus Government selling price plus handling costs. Rice purchased by the Government is largely of high-yielding varieties, while rice sold on the open market consists to a substantial degree of traditional varieties which command a premium.

Source: Economic Planning Board, staff estimates.

Table A8.4: FERTILIZER PRICES
(Average price in Won/ton)

	Government purchase price (1)	Other handling cost (2)	Total pur- chase cost (3)=(1)+(2)	Government selling price	Export price /a
Urea					
1975	63,984	5,524	69,508	64,210	-
1976	69,798	10,129	79,927	119,127	48,506
1977	73,313	3,416	76,729	121,004	58,564
1978	92,544	7,865	100,409	122,210	69,459
1979	113,950	8,812	122,762	122,194	88,892
1980	159,019	13,751	172,770	146,759	151,341
1981	232,141	16,019	248,220	220,108	178,291
1982	235,294	20,611	255,905	249,465	129,355
1983	233,346	25,351	258,697	249,200	122,090
N.P.K.					
1975	86,507	5,528	92,035	57,005	-
1976	97,892	10,119	108,011	97,506	64,372
1977	102,843	3,420	106,263	95,489	72,552
1978	115,357	7,861	123,218	99,223	76,971
1979	123,329	8,810	132,139	98,963	101,151
1980	150,658	13,760	164,418	117,336	180,476
1981	236,683	16,100	252,783	174,987	172,589
1982	238,169	20,621	258,790	201,121	144,196
1983	214,720	25,351	240,070	199,698	162,960
Total					
1975	80,129	5,524	85,653	52,147	-
1976	80,613	10,128	90,741	96,559	42,940
1977	81,262	3,420	84,682	89,777	55,413
1978	94,439	7,853	102,292	95,231	66,502
1979	109,726	8,810	118,536	97,328	87,648
1980	147,064	13,764	160,828	122,482	156,964
1981	224,589	16,103	240,692	181,538	154,656
1982	224,802	20,612	245,414	204,470	125,941
1983	210,414	25,351	235,765	206,580	162,960

/a Estimated FOB prices.

Source: Economic Planning Board.

Table A9.1: INDUSTRIAL PRODUCTION, 1970-83
(1980 = 100)

	<u>All items</u>		<u>Mining</u>		<u>Manufacturing</u>		<u>Electricity</u>	
	Index	Growth rate (%)	Index	Growth rate (%)	Index	Growth rate (%)	Index	Growth rate (%)
1970	17.8	11.9	64.1	11.7	16.3	11.6	24.6	19.4
1971	20.5	15.2	66.2	3.3	19.0	16.6	28.3	15.0
1972	23.5	14.6	63.1	-4.7	22.1	16.3	31.8	12.4
1973	31.4	33.6	73.4	16.3	30.0	35.7	39.8	25.2
1974	40.0	27.4	80.2	9.3	38.7	29.0	45.2	13.6
1975	47.6	19.0	89.9	12.1	46.3	19.6	53.2	17.7
1976	61.9	30.0	90.6	0.8	61.0	31.7	62.0	16.5
1977	74.1	19.7	98.8	9.1	73.4	20.3	71.3	15.0
1978	91.1	22.9	101.1	2.3	90.9	23.8	84.6	18.7
1979	101.8	11.7	101.1	0.0	101.9	12.1	95.6	13.0
1980	100.0	-1.8	100.0	-1.1	100.0	-1.9	100.0	4.6
1981	112.7	12.7	102.7	2.7	113.4	13.4	108.0	8.0
1982	117.7	4.4	96.9	-5.6	118.7	4.7	115.8	7.2
1983	135.6	15.2	97.6	0.7	137.6	15.9	131.2	13.3

Source: Economic Planning Board.

Table A9.2: MANUFACTURING CAPACITY UTILIZATION
(%)

	1976	1977	1978	1979	1980	1981	1982	1983
Manufacturing sector	78.9	81.5	88.1	81.9	69.5	70.3	69.8	76.7
Textiles and footwear	87.7	86.0	84.8	82.9	81.8	81.4	80.7	80.4
Automobiles	48.2	62.2	83.9	56.0	31.1	39.0	53.0	82.4
Shipbuilding	36.1	23.2	26.4	25.7	40.9	65.0	65.3	64.9
Machinery	69.3	66.9	69.1	75.1	46.8	51.4	52.4	69.1
Electronics	75.3	72.0	71.2	74.8	65.3	69.0	65.2	76.3

Source: Economic Planning Board.

Table A9.3: ENERGY CONSUMPTION BY SECTORS
(^{'000} tons of oil equivalent)

Sectors	1970	1975	1980	1981	1982	1983/a
Industry						
Petroleum products	3,370	7,176	10,758	9,927	8,382	8,715
Coal	840	830	3,653	5,275	5,842	6,141
Electricity	1,349	1,018	1,971	2,087	2,188	2,424
Firewood and charcoal	245	-	-	-	-	-
<u>Total</u>	<u>5,804</u>	<u>9,024</u>	<u>16,382</u>	<u>17,291</u>	<u>16,412</u>	<u>17,280</u>
Transportation						
Petroleum products	2,254	2,275	5,073	5,677	5,908	6,684
Coal	30	20	2	2	2	-
Electricity	17	22	34	40	40	47
<u>Total</u>	<u>2,301</u>	<u>2,317</u>	<u>5,109</u>	<u>5,719</u>	<u>5,950</u>	<u>6,731</u>
Residential and Commercial						
Petroleum products	447	354	2,221	2,224	2,231	2,546
Coal	4,369	6,572	8,670	9,105	8,630	8,909
Electricity	649	317	710	804	912	1,052
Noncommercial fuels	3,985	3,420	2,517	2,492	2,417	2,364
<u>Total</u>	<u>9,450</u>	<u>10,663</u>	<u>14,118</u>	<u>14,625</u>	<u>14,190</u>	<u>14,871</u>
Public and Others						
Petroleum products	1,188	1,295	1,994	1480	2,332	2,379
Coal	477	144	101	95	74	75
Electricity	277	73	100	113	118	132
Noncommercial fuels	21	-	-	-	-	-
<u>Total</u>	<u>1,963</u>	<u>1,512</u>	<u>2,195</u>	<u>1,688</u>	<u>2,524</u>	<u>2,586</u>
Electricity						
Petroleum products	1,916	4,629	6,988	7,608	7,809	7,526
Coal	279	509	773	766	902	1,427
Hydro /b	339	421	496	677	501	644
Nuclear /b	-	-	869	724	944	1,929
Gas	-	-	-	-	-	-
<u>Total</u>	<u>2,534</u>	<u>5,559</u>	<u>9,126</u>	<u>9,775</u>	<u>10,156</u>	<u>11,522</u>
<u>Total Internal Demand</u>	<u>22,052</u>	<u>27,644</u>	<u>44,115</u>	<u>46,052</u>	<u>45,974</u>	<u>49,335</u>

/a Estimate.

/b TOE required for some output using fuel output ratios appropriate for each year.

Source: Ministry of Energy and Resources, 1983 Yearbook of Energy Statistics.

Table A9.4: ENERGY DEMAND AND IMPORTS BY FUEL
([']000 tons of oil equivalent)

	1970	1975	1980	1981	1982	1983/a
<u>Demand</u>						
Coal						
Anthracite	5,776	7,556	9,878	10,337	9,838	10,052
Bituminous	53	519	3,321	4,906	5,612	6,500
Petroleum	9,294	15,728	27,034	26,916	26,662	27,850
Primary electric						
Hydro	305	421	496	677	501	640
Nuclear	-	-	869	724	944	1,929
Firewood, etc.	4,251	3,420	2,517	2,492	2,417	2,364
<u>Total Demand</u>	<u>19,679</u>	<u>27,644</u>	<u>44,115</u>	<u>46,052</u>	<u>45,974</u>	<u>49,335</u>
<u>Imports, Net</u>						
Coal	-61	519	4590	6,995	6,642	7,520
Petroleum and gas	9,294	15,728	27,034	26,916	26,662	27,850
Nuclear	-	-	869	724	944	1,929
<u>Total Imports</u>	<u>9,347</u>	<u>16,247</u>	<u>32,493</u>	<u>34,635</u>	<u>34,248</u>	<u>37,299</u>
Imports as a % of total supply	47.5	58.8	73.9	75.2	74.5	75.6
Value of energy imports (US\$ million)	136	1,331	6,121	7,881	7,526	6,723
Value of energy imports as a % of exports	16.3	26.2	35.0	37.1	34.4	28.6

/a Estimate.

Source: Ministry of Energy and Resources, 1983 Yearbook of Energy Statistics.

Table A9.5: PRINCIPAL ENERGY PRICES TO CONSUMERS

	1978	1979	1980	1981	1982	1983	Increase 1979-83 (%)
<u>Petroleum (¢/liter)</u>							
Gasoline, regular	37.0	69.2	112.0	102.2	98.8	82.8	17.5
Diesel	14.5	24.0	35.4	37.7	37.1	34.8	19.1
Fuel oil	11.2	18.6	29.5	28.9	27.7	23.9	16.4
Kerosene	15.3	24.4	34.2	41.7	39.0	36.5	19.0
Crude oil, c.i.f. (\$/barrel)	8.2 (13.0)	10.6 (17.5)	19.3 (31.0)	21.0 (35.6)	21.5 (34.1)	18.9 (30.0)	18.2 (18.2)
<u>Electricity (¢/kWh)</u>							
Residential	6.7	8.7	10.1	11.3	10.3	9.2	6.5
Commercial	8.5	12.7	17.1	18.8	18.4	16.2	13.8
Industry	3.8	5.5	4.1	8.0	7.4	7.1	13.3
Agriculture	2.2	3.0	3.7	3.1	3.8	3.6	10.4
<u>Average</u>	4.6	6.6	8.4	9.8	9.1	8.3	12.5
<u>Coal (\$/ton)</u>							
Briquette	34.4	45.2	48.0	62.4/c	58.5	54.9	9.8
Anthracite <u>/a</u> (Imported c.i.f.) <u>/b</u>	26.4 (48.9)	34.1 (51.2)	39.1 (63.4)	52.3/c (68.6)	49.9 (66.2)	48.0 (64.3)	12.7 (5.6)

/a Delivered to briquette makers.

/b The domestic coal prices are for coal of 5,150-5,300 kcal/kg, while imported anthracite coal average 5,700-5,800 kcal/kg. When expressed on an equivalent basis, domestic coal is now about 30% below the border price of imported anthracite coal plus distribution costs.

/c

Source: Ministry of Energy and Resources.

KOREAOPERATIONS OF THE PUBLIC SECTOR ^{1/}

1. During the past several years, the public sector has been a net borrower of funds from private households (Table 3.3 - main report). Such borrowing reached a peak in 1982 of 1.4% of GNP, but, since public sector savings increased by 1% of GNP in 1983, this deficit has almost been eliminated. In the revised Fifth FYP, public sector savings are projected to rise from the current level of 7% of GNP to 8.3% by 1986. Fiscal austerity in the public sector is a cornerstone of the government's overall macro-strategy to substantially lower the rate of inflation and to eliminate the current account deficit by 1986.

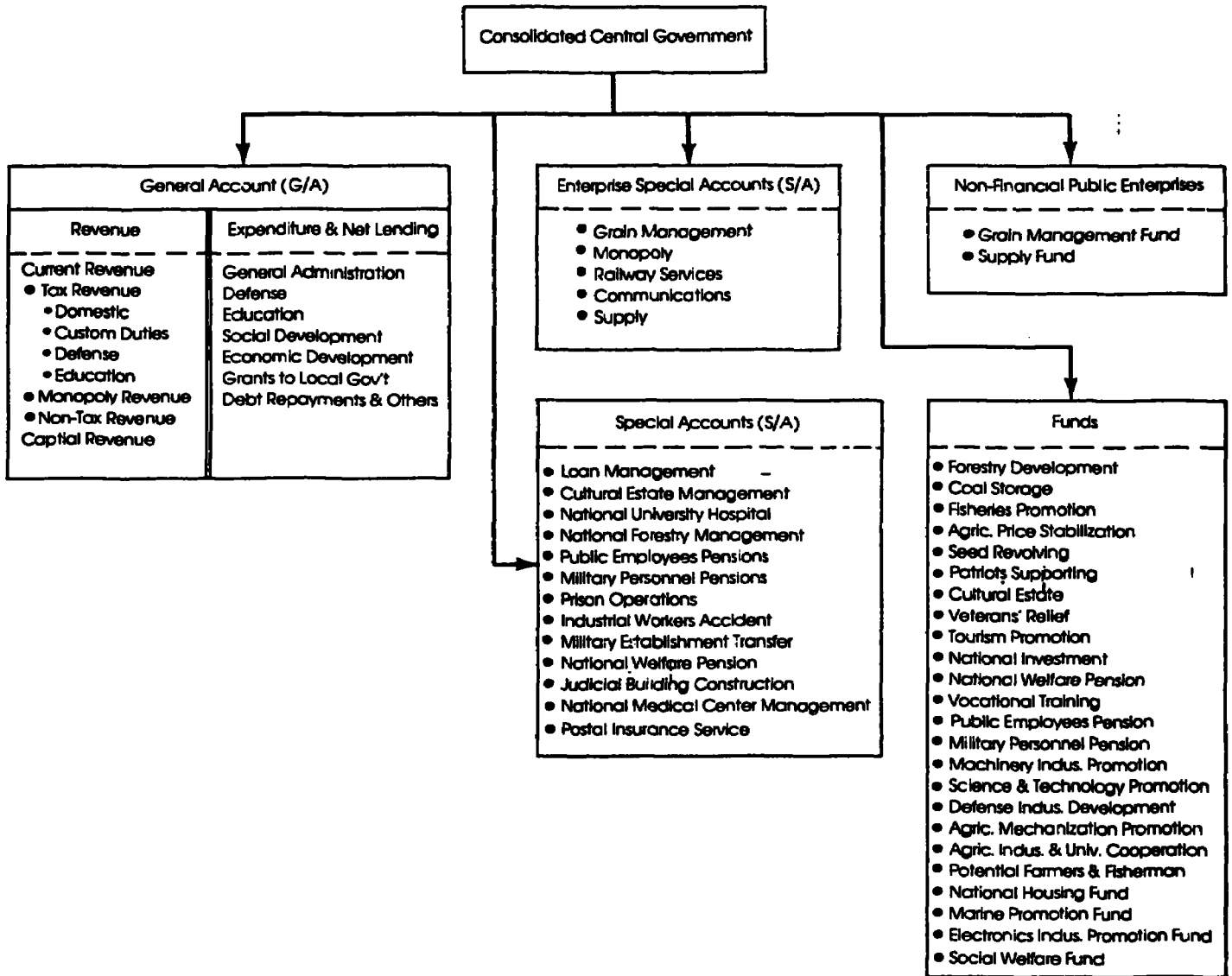
The Structure of the Public Sector

2. The public sector in Korea is comprised of the operations of the consolidated Central government and all local governments. As shown in Chart 1, the consolidated central government includes: the General Account (G/A); 5 enterprise special accounts; 12 special accounts (S/A); 2 nonfinancial public enterprises (NFPE); and, 23 funds. The G/A executes all of the administrative functions of the government, including the revenue raising activities, the operation of the various ministries, and the majority of the economic and social development activities of the government. The funds and special accounts cover all public enterprises which are financially integrated with the general account and which do not keep their own reserves except for working balances. The twenty-six public corporations, in which the government has an equity share, are not included in the public sector accounts, since their operations are financially independent of the central government, apart from receiving net lending.

3. Four of the Funds and special accounts are large and important in terms of their contribution to the overall public sector deficit. The Grain Management Fund (GMF) (the Grain Management special account is used to channel the administrative costs of the operation of the fund) buys rice and barley from the farmers, selling the rice and barley to the public, primarily smoothing out price fluctuations. In addition, the GMF administers the import of all grains, now averaging about 6 million metric tons per annum. The Supply Fund (or the Fertilizer Fund) buys fertilizer from producers and then distributes it to the farmers. The National Investment Fund (NIF), created in 1974, provides resources drawn from the budget, as well as the banking sector, for the development of the heavy industry and chemical sector. Loans administered by the NIF, which are filtered through the banking system, were,

^{1/} The public sector includes all operations of the Central Government and all local governments. It is identical to the term "government sector," which is used in the main body of the report.

REPUBLIC OF KOREA
Structure of Central Government



until recently, given at concessional rates to infant industries for building, increasing, and modernizing industrial capacity. Finally, the National Housing Fund subsidizes low-income and low-cost housing.

Integrated Accounts of the Consolidated Central Government

4. The course of consolidated central government operations is set out in Table 1. These figures are arranged into three sectors: (i) the general account; (ii) all special accounts, including the enterprise special accounts; and, (iii) all funds, including the two NFPEs. The program of fiscal austerity being pursued by the government under the Fifth Plan is strikingly evident. The actual 1983 deficit represents a substantial improvement over both the 1982 outcome and the 1983 budget. This is because expenditures were increased very little, while the unexpected growth in GNP increased tax revenues by 4% over the original plan. The majority of this improvement occurred in the G/A, where the surplus increased almost fourfold; in the 1984 budget, a small reduction in the surplus is planned. The 1984 budget for the special accounts implies a slight decline from the 1983 outcome; however, the deficit in 1984 is still 20% higher than in 1982. The government's commitment to reducing the activities of the various funds is evidenced by the decline in their overall deficit - a decline of 37% from the W 1,466.3 billion deficit of 1982 to a W 922 billion deficit in 1983 and a further 22% decline in 1984. The deficit of the consolidated central government, the consolidated budget deficit (CBD), was W 1,582 billion in 1982; in 1983, it had dropped substantially to W 400 billion and is projected to remain at this level in 1984.

5. Individual components of the CBD are shown in Table 2. As indicated at the top of this table, there is a difference between the MOF's definition of this deficit, which is consistent with IMF accounting procedures and that used by the Economic Planning Board, due to the exclusion from the EPB statistics of three items; (i) foreign borrowing on-lent to the private sector; (ii) Foreign Military Sales' Credits (FMS); and (iii) reimbursements for requisitioned property. Therefore, the CBD on the MOF/IMF criteria is larger. For the sake of consistency, the EPB's presentation is used throughout.

6. The CBD reached a peak of 4.2% of GNP in 1981, declining by about 1% in 1982 and by over 2% in 1983; it is projected to remain stable in 1984. This dramatic reduction in the CBD is primarily the result of four factors: (i) an 83% decline in the deficit of the Loan Management special account since 1983; (ii) an 82% decline in the deficit of the GMF since 1982; and (iv) a 375% increase in the surplus of the G/A since 1982.

The Loan Management Special Account

7. The reduction in the deficit of the Loan Management special account, which finances government projects outside the budget, will be attained by rephasing and curtailing major investment projects. The government will give priority to supporting projects directly related to economic and social development, and projects which increase productivity in the agriculture and fishery sectors, while infrastructure projects, especially electricity and railroads, will be postponed. These reductions in several public sector investment projects would enable the government to reduce the deficit in this special account.

KOREA

OPERATIONS OF THE PUBLIC SECTOR

Consolidated Operations of the Consolidated Central Government
(Unit - billion Won)

	1982 Actual	1983 Budget	1983 Actual	1984 Budget
<u>General Account</u>				
Current revenue	8,716.3	9,951.5	10,396.4	10,890.6
Tax revenue	8,415.5	9,615.6	10,070.3	10,539.8
Nontax revenue	300.8	335.9	326.1	350.8
Current expenditure	7,170.9	8,229.8	8,051.8	8,790.4
N.D. expenditure	3,034.5	3,052.9	/a	3,076.9
Grants to local gov.	700.9	857.9	/a	856.5
Educational grants	1,568.6	1,803.1	/a	1,915.3
Wages & salaries	694.1	823.7	/a	846.6
Other	1,172.8	1,692.2	/a	2,095.1
I. Current balance	1,545.4	1,721.7	2,344.6	2,100.2
Capital revenue	18.3	13.3	30.9	12.4
Capital expenditure	1,208.2	1,294.1	1,279.0	1,331.4
II. Capital balance	-1,189.9	-1,280.8	-1,248.1	-1,319.0
III. Net lending	-173.8	-208.9	-203.5	-98.7
IV. Overall balance (I+II+III)	181.7	232.0	893.0	682.5
<u>Special Accounts (17)</u>				
Current revenue	2,741.1	2,886.6	2,304.4	3,059.4
Current expenditure	2,677.0	2,958.7	2,385.0	3,191.7
I. Current balance	64.1	-72.1	-80.6	-132.3
Capital revenue	58.6	95.4	77.7	90.1
Capital expenditure	291.9	378.4	260.9	301.6
II. Capital balance	-233.3	-283.0	-183.2	-211.5
III. Net lending	-128.0	-156.3	-110.9	-8.1
IV. Overall balance (I+II+III)	-297.2	-511.4	-374.7	-351.9
<u>Funds (26)</u>				
Current revenue	2,479.5	2,791.3	2,689.4	3,245.0
Current expenditure	2,787.5	2,960.2	2,659.4	3,030.1
I. Current balance	-308.0	-168.9	30.0	214.9
Capital revenue	58.0	74.1	59.4	80.6
Capital expenditure	402.1	116.3	81.4	220.2
II. Capital balance	-344.1	-42.2	-22.0	-139.6
III. Net lending	-814.2	-1,052.5	-930.7	-792.4
IV. Overall balance (I+II+III)	-1,466.3	-1,263.6	-922.2	-717.1
<u>Consolidated Budget Deficit</u>	<u>-1,581.8</u>	<u>-1,543.0</u>	<u>-403.9</u>	<u>-386.5</u>

/a Complete breakdown not available.

Source: Budget Bureau, EPB.

KOREA

OPERATIONS OF THE PUBLIC SECTORComponents of Consolidated Budget Deficit: 1980-84
(Unit - Billion Won)

	1980	1981	1982	1983	1983	1984
	-----	Actual	-----	Budget	Actual	Budget
EPB cons. budget deficit	938.5	1,903.8	1,591.8	1,543.0	403.9	387.0
(As % GNP)	2.5	4.2	3.1	2.7	0.7 ¹	0.6
MOF/IMF cons. budget deficit /a	1,173.7	2,110.9	2,222.1	2,073.0	950.6	1,172.2
(As % GNP)	3.2	4.6	4.3	3.6	1.6	1.8
<u>Components of CBD</u>						
General account	-	-	182	232	893	683
Loan management S/A	-	-	-	-150	/b	-25
Railways S/A	-	-	-	-133	/b	-85
Grain Management Fund	-	-569.5	-482.0	-186	-241.6	-98.3
National Investment Fund	-282.7	-440.4	-537.8	-538	-363	-174
National Housing Fund /c	-	-519.5	-221.3	-385	/b	-415
Others	-	-	-	-383	/b	-273
<u>Total</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-1,543</u>	<u>-404.0</u>	<u>-387</u>
Memo Items:						
GNP (current prices)	37,205	45,775	51,786	58,134	58,134	64,369

/a Consolidated budget deficit on IMF criterion includes the deficit incurred by FMS loans and project loans.

/b Not available.

/c The deficit in the operations of the National Housing Fund (NHF) is due to its net lending activities and not differences between current/capital revenues and current/capital expenditures. These net lending activities consist of mortgage loans and their repayments. Since these loans result from the government's housing policy, the deficit of lending minus repayment is considered part of the CBD (See The World Bank Statistical Manual, Section 3.55, pp. 11-12).

Source: Budget Bureau, EPB.

The Grain Management Fund

8. A substantial reduction in the GMF deficit has been achieved in the past several years. As shown by Table 3, the GMF deficit peaked at W 570 billion in 1981, about 30% of the CBD in that year; in 1982, it declined to W 482 billion, remaining about 30% of the CBD. In 1983, a 50% reduction in the size of the deficit was achieved, to only W 242 billion. Improvements in the level of the GMF deficits have resulted from a narrowing of the gap between the government's selling and purchase price (plus management costs) for rice and barley (Table 4). For rice, the ratio of the sales price to the buying cost has increased from 73.2% in 1980 to 80.0% in 1983; for barley, from 32% to 64.7%. Recent deficits have resulted largely from the trading of barley - the barley deficit totalled W 178 billion in 1983 - for which domestic demand is falling and which has virtually no export potential.

9. The decrease in the GMF deficit shown in Table 3 for the 1984 budget is partly the result of an accounting convention, since a W 300 billion transfer from the G/A to finance the deficit is considered a revenue item by IMF accounting procedures, not a financing item, and therefore is netted out of the deficit. Changing the method of financing the GMF deficit is significant for two reasons: (i) expenditures on the G/A are more closely scrutinized by the National Assembly, whereas the previous method of financing GMF deficits by BOK borrowings were not and a fuller public debate, in which both the costs and the benefits of the GMF are explicitly discussed has been promoted; and, (ii) the monetary expansion which resulted from the financing of the past GMF deficits, is being eliminated allowing the government greater control over the monetary base. There continue to be operating deficits in the GMF, which require continuing transfers from the G/A, and in 1984 the fund's operating shortfall will be equivalent to the levels of previous years. Moreover, the Government has committed itself to phasing out the operating subsidies by the end of 1987.

The National Investment Fund

10. The operations of the NIF are shown in Table 5. The deficit of the NIF was W 540 billion in 1982 (34% of CBD); and in 1983, W 370 billion. The 1984 budget projects a deficit of W 176 billion, a reduction of about 50% from 1983. This reduction in the budgeted deficit of the NIF for 1984, which is consistent with the strategy embodied in the revised Fifth FYP, reflects the government's desire to become less active in directing the country's investment activities, thereby allowing the private sector more latitude for initiative and risk-taking.

The General Account.

11. The G/A for 1984 involves a substantial departure from preceding years in that the overall level of expenditures will be frozen at the 1983 level. A key ingredient to this is the control of administrative costs by a freeze on public sector salaries and employment, including the military, the education sector, and all public enterprises. The increased revenues, resulting from the economy's growth, will be used to replace the BOK borrowings for the GMF and the Supply Fund, as well as the foreign loan

KOREA

OPERATIONS OF THE PUBLIC SECTOR

Table 3: OPERATIONS OF THE GRAIN MANAGEMENT FUND
(Unit - Billion Won)

	1980	1981	1982	1983	1983	1984
	-----	Actual	-----	Budget	Actual /a	Budget
Revenues	1,000.6	1,005.7	812.1	1,178.1	943.9	1,428.2
Rice sales	744.4	694.1	462.8	743.5	560.7	700.5
Barley sales	70.6	116.0	106.3	176.8	96.8	183.4
Sales to Cen. Govt.	115.7	129.5	201.2	181.7	160.2	168.9
Other grains	4.7	28.3	14.6	39.8	15.5	41.5
By-products	65.2	37.8	27.2	36.3	110.7	33.9
Transfer from G/A						300.0
Expenditures	1,155.9	1,575.2	1,294.1	1,363.7	1,185.5	1,526.5
Dom. rice purchases	535.4	382.0	691.2	715.8	575.1	991.8
Rice imports	178.5	735.3	151.1	121.8	84.3	52.1/b
Dom. barley purchases	169.3	177.6	215.1	247.0	275.1	231.2
Other grains	4.3	27.8	9.5	0	-	-
Other grain imports	6.3	2.0	4.1	5.6	6.7	-
Handling & storage	138.8	146.3	142.3	160.5	142.1	153.2
Interest payments	58.2	76.4	69.0	113.0	90.2	85.4
Other	65.1	27.8	11.8	0	12.0	12.8
Surplus/Deficit	-155.3	-569.5	-482.0	-185.6	-241.6	-98.3
Financing	155.3	569.8	482.1	185.6	/c	98.3
Domestic financing	155.3	327.5	482.1	185.6		98.3
Borrowings from BOK	130.0	220.0	200.0	250.0		0
Grain bonds	0	50.0	340.0	-50.0		100.0
- Issue	260.0	310.0	650.0	600.0		700.0
- Repayments	-260.0	-260.0	-310.0	-650.0		-600.0
Use of cash balances	26.1	56.3	-56.3			-1.7
Transfer to GMSA		1.2	0	-12.8		
Amort. to loan						
Man. S/A	-0.8	0	-1.6	-1.6		
Foreign financing		242.3				

/a Preliminary.

/b Includes other grain imports.

/c Financing data are not available.

KOREAOPERATIONS OF THE PUBLIC SECTORPrices of Government Rice and Barley
('000 won/mt)

<u>Crop/ year</u> /a	<u>Purchase price from farmers</u> /b	<u>Manage- ment cost</u>	<u>Buying cost (1)+(2)</u>	<u>Sales price</u> /b	<u>Sales price as % of buying cost</u>
<u>Rice</u>					
1980	457.5	89.1	546.6	400.0	73.2
1981	571.9	121.9	693.8	50.0	79.3
1982	652.0	127.3	779.3	666.0	85.5
1983	699.6	117.0	816.6	653.5	80.0
<u>Barley</u>					
1980	287.6	125.7	413.3	132.3	32.0
1981	345.1	164.0	509.1	230.0	45.2
1982	388.2	179.0	567.2	253.0	44.6
1983	441.6	123.8	565.4	402.6	71.2

/a Rice year

/b Prices of Grade #2 milled rice. For barley, sales price is uniform.

Source: EPB.

KOREAOPERATIONS OF THE PUBLIC SECTOROperations of the National Investment Fund
(Unit - Billion Won)

	1979	1980	1981	1982	1983	1983	1984
	----- Actual -----		----- Budget -----		----- Actual -----		----- Budget -----
<u>Revenue</u>	<u>151.0</u>	<u>259.7</u>	<u>283.0</u>	<u>243.2</u>	<u>249.0</u>	<u>237.7</u>	<u>267.0</u>
Current revenue	151.0	259.7	283.0	243.2	249.0	237.7	267.0
Capital revenue	-	-	-	-	-	-	-
<u>Expenditure</u>	<u>514.6</u>	<u>542.5</u>	<u>723.4</u>	<u>781.0</u>	<u>789.3</u>	<u>600.5</u>	<u>443.0</u>
Current expenditure	150.0	235.4	311.9	305.7	219.3	206.7	243.0
Capital expenditure	-	-	-	-	-	-	-
Net lending	364.6	307.0	411.5	475.3	570.0	393.8	200.0
<u>Deficit</u>	<u>-363.6</u>	<u>-282.7</u>	<u>-440.4</u>	<u>-537.8</u>	<u>-540.3</u>	<u>-362.8</u>	<u>-176.0</u>
<u>Financing</u>	<u>363.6</u>	<u>282.7</u>	<u>440.4</u>	<u>537.8</u>	<u>540.3</u>	<u>362.7</u>	<u>176.0</u>
Bank	226.8	106.6	253.0	482.2	392.6	185.7	160.0
Nonbank	82.5	143.6	155.1	48.3	155.7	190.6	32.0
Intra-account trans- actions	54.3	32.5	32.3	7.3	-8.0	-13.5	-16.0

Source: EPB, staff estimates.

requirements of the Loan Management Special Account. In the public investment program, the Government will continue to emphasize basic needs, such as water supply and sewage, health, insurance, the subway system, and education. A medium-term financial plan was also prepared for the G/A projecting revenue and expenditure trends through 1986.

12. The revenue side of the G/A is composed of six items: domestic taxes; custom duties; defense tax; education tax; monopoly revenues; and, other nontax revenues (Table 6). Domestic taxes, which constitute 60% of total revenues include direct taxes, such as the personal income tax and the corporate tax, and indirect taxes, such as the Value-Added Tax (VAT), liquor tax, and other special excise taxes. The VAT, which was introduced in 1977, replaced eight other indirect taxes, and is the largest component of domestic taxes (40%). The personal income tax, the corporate tax, and other special excise taxes comprise about 45% of domestic tax revenue.

13. Custom duties, currently about 14% of total tax revenue, increased by 45% in 1983, as a result of the duty imposed on imported petroleum. Revenues from this duty amounted to an additional W 130 billion in 1983, and are projected to increase W 200.9 billion in 1984, W 1219.6 billion in 1985, and W 242.3 billion in 1986. But, due to the government's program of import liberalization, other custom duties will decline during 1984-86 - by W 0.6 billion in 1984, W 15.8 billion in 1985, and W 60.3 billion in 1986.

14. The third largest component of revenues is the defense tax, which is levied as a surcharge on most national and local taxes. Currently, these surcharges constitute about 12.5% of total tax revenues. The defense tax was established for a five-year period in 1975, renewed for an additional five-year period in 1980, and in the Fifth FYP, it is projected to be renewed for another five-year period.

15. The education tax, which contains both tax and surtax elements, was introduced in 1982 for a period of five years. Currently, it constitutes only 2.5% of tax revenue and draws its revenues from a tax on interest and dividend income, a surtax on the liquor tax, a tax on tobacco sales, and a tax on banking and insurance (as well as the unorganized money market) gross receipts. Monopoly revenues constitute slightly under 8% of total revenue, and are derived almost entirely from the sale of tobacco. Other Non-tax revenues arise from the surpluses of government enterprises, public employee pension funds, school fees, and government bond issues.

16. By 1982, total revenues had risen to W 9,340.8 billion - W 7,636.5 billion of tax revenues and W 1,704.3 billion in nontax revenues. The national tax burden as a percentage of GNP was 14.8%; the total revenue burden 18%. The budget for 1983 projected tax revenues of W 10,416.6 billion, including bond issues of W 346.7 billion in non-tax revenue. Due to the unexpected growth in nominal GNP and the imposition of a custom duty on imported petroleum, tax revenues were 4.6% higher than the budgeted level, W 9,232 billion compared to W 8,615.1 billion, and the majority of the Bond issues were cancelled. The tax burden increased to 15.9% of GNP; the revenue burden to 18.1%.

KOREA

OPERATIONS OF THE PUBLIC SECTOR

General Account Revenue by Source

	<u>1976</u>		<u>1978</u>		<u>1980</u>		<u>1982</u>		<u>1983 actual</u>		<u>1984 budget</u>	
	Bln won	%	Bln won	%	Bln won	%	Bln won	%	Bln won	%	Bln won	%
National tax	1,914.7	79.8	3,372.2	83.5	5,297.7	79.8	7,636.5	81.7	9,220.7	87.4	9,693.7	88.4
(% GNP)	(13.8)		(13.9)		(14.2)		(14.8)		(15.9)		(15.1)	
Domestic tax	1,370.5	57.1	2,252.5	55.8	3,675.8	55.4	5,250.7	56.2	6,188.4	58.7	6,454.6	58.9
Custom duties	275.5	11.5	646.4	16.0	766.1	11.5	1,012.6	10.8	1,463.2	13.9	1,580.4	14.4
Defense tax	268.7	11.2	473.3	11.7	855.8	12.9	1,175.3	12.6	1,306.0	12.4	1,374.0	12.5
Education tax	-	-	-	-	-	-	197.9	2.1	263.1	2.5	284.7	2.6
Monopoly profits	178.0	7.4	280.0	6.9	510.0	7.7	760.0	8.1	830.0	7.9	846.0	7.7
Nontax revenues	306.2	12.8	388.3	9.6	827.5	12.5	944.3	10.2	497.7	4.7	427.0	3.9
<u>Revenues</u>	<u>2,398.9</u>	<u>100.0</u>	<u>4,040.5</u>	<u>100.0</u>	<u>6,635.2</u>	<u>100.0</u>	<u>9,340.8</u>	<u>100.0</u>	<u>10,548.4</u>	<u>100.0</u>	<u>10,966.7</u>	<u>100.0</u>
(% GNP)	(17.1)		(16.7)		(17.8)		(18.0)		(18.1)		(17.0)	

Source: Korea Taxation, MOF, various issues.

17. The 1984 budget projects total revenues of W 10,966.6 billion, an increase of 4% over the 1983 outcome. However, at the time of preparation of the 1984 budget (last half of 1983), the 1983 GNP growth rate was not fully anticipated. Therefore, the revenue projections in the 1984 budget are too low, especially in light of the anticipated GNP growth for the remainder of the Fifth FYP period.

18. To calculate these revenue projections, we estimated a set of buoyancy elasticities over the period 1971-83.^{2/} These are presented in the last column of Table 7. The elasticity of tax revenue is 1.3 and for total revenue, it is slightly above 1. As the economy continues to grow, the tax and revenue burdens will also increase. Some preliminary projections indicate that the tax burden will rise to about 16% of GNP and the revenue to almost 19% by 1986. Therefore, barring unexpected changes in either the growth of GNP or the rate of inflation, Central Government revenues should be more than adequate to assure an increase in Central Government savings throughout the remainder of the plan period, especially in light of the fiscal austerity planned on the expenditure side.

19. For expenditures, the G/A can be disaggregated into seven functional categories: general administration; defense; education; social development; economic development; grants to local governments; and, repayment of debts and reserve fund. As shown in Table 8, the largest component of G/A expenditures is defense, over 30% of the total. By treaty, defense expenditures must equal 6% of GNP, but in past years, these expenditures have exceeded this legal minimum. Education expenditures are the second largest portion of the budget, growing from 15% of the total in 1976 to 22% in the 1984 budget. These expenditures are set by two budgetary statutes: (i) grants for education must equal 11.8% of domestic tax revenues; (ii) the receipts of the education tax must be spent entirely for education. While education expenditures have been increasing, those for economic development have declined from 25% to 16.5% over the same period. The growth in Education and the decrease in Economic Development expenditures reflect the increased emphasis in the Fourth and Fifth FYP's on social development.

20. The share of the remaining expenditure items have remained relatively unchanged since 1976. Grant-In-Aids to the local governments are also set by budgetary statute at 13.27% of domestic tax revenues. In the last few years, these grants have been higher, since the central government has provided special grants to the local governments for the purpose of repaying the principal on local bond issues.

21. In order to impose fiscal restraint on the G/A budget in 1984, a number of guidelines have been established. First, expenditures on defense, education, and grants to local government's are to be held to their budgetary

^{2/} Since only minor tax changes are anticipated throughout this period, the buoyancy elasticity is an adequate predictor of revenues; we were unable to obtain revenue series without discretionary changes in the tax laws, in order to estimate "pure" elasticities.

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General Account Revenue Projections: 1984
(Unit - Billion Won)

	1984 Budget /a	1984 Projected /b	Elasticity 1971-83
<u>Actual Revenue</u>			
Tax revenue	9,693.7	9,984.5	1.3
(Sum of elas proj)		10,022.7	
Domestic tax	6,454.6	6,495.4	1.030
Custom duties	1,580.4	1,712.9	1.146
Defense tax	1,374.0	1,529.7	1.160/c
Education tax	284.7	284.7	/d
Monopoly revenue	846.0	901.5	1.090
Nontax revenue	427.0	1,072.8	0.773/e
<u>Total Revenue</u>	<u>10,966.7</u>	<u>11,578.6</u>	<u>1.055/e</u>
(Sum of elas proj)		11,997.0	
<u>Revenue Burden (%)</u>			
Tax revenue	15.1	15.5	
(Sum of elas proj)		15.6	
Domestic tax	10.0	10.1	
Custom duties	2.1	2.4	
Defense tax	2.1	2.4	
Education tax	0.4	0.4	
Monopoly profits	1.3	1.4	
Nontax revenue	0.7	1.7	
<u>Total Revenue</u>	<u>17.0</u>	<u>18.0</u>	
(Sum of elas proj)		18.6	
<u>Memo Item</u>			
GNP (current prices)	64,369	64,369	

/a Budget data.

/b Projected data based on elasticities in the last column of table and GNP projections.

/c Defense tax elasticity was calculated over the period 1976-83.

/d Education tax data are available for 1981-83 only.

/e Elasticity for period 1971-82.

Source: Budget Bureau, EPB.

KOREA

OPERATIONS OF THE PUBLIC SECTOR

General Account Expenditures by Function

	1976		1978		1980		1982		1983 estimate		1984 budget	
	Bln won	%	Bln won	%	Bln won	%	Bln won	%	Bln won	%	Bln won	%
General administration	221.9	10.4	359.2	10.2	629.2	9.7	1,004.9	11.0	1,101.6	10.8	1,100.9	10.6
Defense	703.8	32.8	1,307.6	37.0	2,308.4	35.6	3,171.2	34.5	3,357.5	33.0	3,451.6	33.1
Education	317.0	14.8	615.7	17.4	1,122.1	17.3	1,909.1	20.8	2,150.0	21.1	2,275.2	21.9
Social development	132.7	6.2	175.8	5.0	442.4	6.8	569.8	6.2	663.6	6.5	737.1	7.1
Economic development	535.6	25.0	725.1	20.5	1,397.4	21.6	1,607.8	17.5	1,752.6	17.2	1,722.7	16.5
Grants to local governments	151.4	7.1	246.9	6.9	410.0	6.3	700.9	7.6	858.8	8.5	856.5	8.2
Repayment of debts & reserve fund	79.9	3.7	108.3	3.0	176.5	2.7	215.2	2.4	296.6	2.9	272.7	2.6
<u>Total</u>	<u>2,142.3</u>	<u>100.0</u>	<u>3,538.6</u>	<u>100.0</u>	<u>6,486.0</u>	<u>100.0</u>	<u>9,178.9</u>	<u>100.0</u>	<u>10,180.7</u>	<u>100.0</u>	<u>10,416.7</u>	<u>100.0</u>

Source: Korea Taxation, MOF, various issues.

minimums. Second, wages and salaries in the public sector will increase by only 3%, allowing for no employment or general wage increases, only wage increases resulting from changes in grades. Finally, administrative costs will increase by no more than 3%.

22. Table 9 shows Central Government Expenditures, for 1983-84, broken down into two expenditure categories: inflexible expenditures, i.e. expenditure items which are governed by budgetary statutes; repayment of debts; and wages and salaries, where the 3% increase can be considered an absolute minimum; and flexible expenditures. In the 1983 budget, expenditures on defense, grants to local governments, and education grants were above the statutory minimums. By holding expenditures in these categories to the minimum in 1984, inflexible expenditures in 1984 will increase by just 1.5%; a decline in real terms, given current inflation projections. The government's commitment to fiscal austerity is also evident in the 1984 budget for flexible expenditures, which fall in nominal terms by 4.2%; nonproject expenditures decreasing by 14.1% and project expenditure increasing by only 1.2%.

23. To examine the impact of the higher level of the GNP projected in 1984, while retaining the budgetary statutes as outlined above, we have simulated the effects of our revenue projections (Table 7) for 1984 in the last two columns of Table 8. These projections show an increase of 7.3% in inflexible expenditures for 1984; total expenditures increase by about W 400 billion. However, this increase in expenditures is slight in comparison to the W 600 billion increase in Central Government revenues, that we projected (Table 7). Given the tremendous compression in G/A expenditures that occurred in 1983 (Table 1) - about W 200 billion lower than budget - there seems to be little room for improvement in the short term. But, with the anticipated increases in 1984 revenues, and an adherence to the expenditure guidelines outlined above, the G/A surplus of W 700 billion is achievable. However, increased compression of expenditures in order to achieve a higher level of government savings would be difficult.

Local Governments

24. Currently, there is no information on actual 1983 revenues or expenditures through 1982. We were able to project, via expenditure and revenue elasticities, a probably trend for local government operations during 1983-86. However, this analysis is premised upon future behavior being identical to past behavior. The results of our projections indicate little change in the surplus in the operations of local governments (about 1% of GNP). Therefore, the net savings of local governments are likely to remain between 2-2.5% of GNP (the current level) for the remainder of the Fifth FYP period.

KOREAOPERATIONS OF THE PUBLIC SECTORTable 9: CENTRAL GOVERNMENT EXPENDITURES (GENERAL ACCOUNT): 1983-84
(Inflexible and flexible)

	1983 Budget (W bln)	1984 Budget (W bln)	% Chg 1983	1984 Projected (W bln)	% Chg 1983
<u>Inflexible Expend.</u>	7,184.5	7,289.1	1.5%	7,710.0	7.3%
Defense	3,419.8	3,451.6	0.9%	3,862.2	12.9%
Grants to Loc. Govt.	857.9	856.5	-0.2%	861.9	0.5%
Education grants <u>/a</u>	1,803.1	1,915.3	6.2%	1,920.2	6.5%
Wages & Salaries	816.2	838.9	2.8%	838.9	2.8%
Debt Repayment	287.5	226.8	-21.1%	226.8	-21.1%
<u>Flexible Expenditures</u>	3,232.2	3,097.2	-4.2%	3,097.2	-4.2%
Non-project Expend.	1,141.9	981.0	-14.1%	981.0	-14.1%
Basic Adm. Cost	203.8	201.5	-1.1%	201.5	-1.1%
Proj. Adm. Cost	431.6	392.3	-9.1%	392.3	-9.1%
Equity Inv.	122.4	83.6	-31.7%	83.6	-31.7%
Transfer Funds	184.2	110.2	-40.2%	110.2	-40.2%
Emergencies	199.9	193.4	-3.3%	193.4	-3.3%
Projects	2,090.3	2,116.2	1.2%	2,116.2	1.2%
Major projects	1,699.9	1,910.2	12.4%	1,910.2	12.4%
Completed	390.4	206.0	-47.2%	206.0	-47.2%
<u>Total G/A Expenditures</u>	<u>10,416.7</u>	<u>10,386.3</u>	<u>-0.3%</u>	<u>10,807.2</u>	<u>3.7%</u>
<u>Memo Item:</u>					
<u>GNP /b</u>	53,191.0	57,527.0	8.2%	6,4370.0	21.0%
Domestic Taxes	6,041.5	6,454.6	6.8%	6,495.4	7.5%
Education Taxes	258.7	284.7	10.1%	284.7	10.1%

/a Includes W 869 billion in wages and salaries (a 3% increase over 1983).

/b In the formulation of the budget for 1983 and 1984, GNP data were 1975 based; the 1984 projected column uses the 1980 based GNP figure.

Source: Staff estimates; EPB.

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Sources and Uses of Funds for Deposit Money Banks, 1978-83 /a

	1978-80		1981-83 /a	
	Amount (Won bln)	Share (%)	Amount (Won bln)	Share (%)
<u>Sources</u>				
Deposits /b	6,199	46.0	8,306	47.6
Foreign liabilities	3,605	26.8	5,007	28.7
Credit from Bank of Korea	2,069	15.4	1,917	11.0
Public sector deposits	511	3.8	1,298	7.4
Capital accounts	854	6.4	936	5.3
Net other items	218	1.6	-	-
<u>Total</u>	<u>13,461</u>	<u>100.0</u>	<u>17,464</u>	<u>100.0</u>
<u>Uses</u>				
Credit to private sector	10,405	77.3	12,750	73.0
Foreign assets	1,819	13.5	1,002	5.7
Deposits at Bank of Korea	578	4.3	1,295	7.4
Credit to public sector	659	4.9	1,303	7.5
Net other items	-	-	1,114	6.4
<u>Total</u>	<u>13,461</u>	<u>100.0</u>	<u>17,464</u>	<u>100.0</u>

/a September 1983.

/b Includes demand deposits, savings deposits, bonds and import deposits.

Source: IMF, International Financial Statistics.

KOREACOUNTRY ECONOMIC MEMORANDUMDistribution of Loans and Discounts of Commercial Banks
by Amount, 1975-82 /a
(%)

Won amount of loan	1975	1976	1977	1978	1979	1980	1981	1982
0 - 10 million	18.0	17.4	14.6	16.4	11.2	10.6	10.2	12.8
10 - 100 million	14.7	14.5	17.9	17.4	15.7	14.2	13.7	15.2
100 million or more	67.3	68.1	67.5	66.2	73.1	75.2	76.1	72.0
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

/a Excludes trust accounts and branches of foreign banks.

Source: Bank of Korea, Economic Statistics Yearbook, 1983.

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Correlation Between Interest Rates, 1980-1 to 1982-2 /a

	UFM rate	UFM rate lagged	UFM rate /b	Corporate bond yield	Lagged bond yield	Bond yield
Overdue loans	0.83	0.52	0.29	-	-	-
Overdrafts	0.53	0.89	0.14	-	-	-
Call market	0.93 (-0.10)	0.91 -	0.51 -	- -	- -	- -
General bills & loans	0.89 (0.86)	0.89 (0.75)	0.47 -	0.94 -	0.74 -	0.70 -
1-year TD	0.84	0.85	0.46	-	-	-
Corporate bond	0.58	0.82	0.58	-	-	-
SIFC deposit rates	0.80	0.92	-	-	-	-

/a Figures in brackets are for period 1977-3 to 1979-4.

/b The numbers in this column represent correlation coefficient with the lagged values of the rates referred to in the extreme left-hand column.

Source: Monthly Bulletin of Statistics, BOK.

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COUNTRY ECONOMIC MEMORANDUM

Private Corporations: Structure of Assets and Liabilities

	1975		1978		1980		1981		1982	
	A	L	A	L	A	L	A	L	A	L
Money	9.4	-	9.1	-	7.5	-	6.7	-	8.2	-
Deposit T&S	20.7	-	19.0	-	15.6	-	12.2	-	7.6	-
Investment & finance	1.4	-	3.1	-	2.9	-	2.9	-	3.7	-
Industrial papers	-	-	-	-	-	-	3.4	9.3	4.5	10.1
Securities	9.1	36.1	9.6	36.9	9.5	40.1	8.3	37.0	9.4	37.3
Debentures	0.5	1.7	0.8	6.2	1.4	11.6	1.5	12.0	1.6	13.5
Stocks	7.7	34.4	5.7	30.7	5.8	28.5	4.6	25.0	5.2	24.1
<u>Loans</u>										
Trade credit	21.3	18.9	23.1	15.7	33.1	18.1	37.9	19.7	39.7	18.3
Bank	-	58.9	-	52.0	-	53.8	-	53.5	-	52.4
Investment & finance cos.	-	5.3	-	6.4	-	5.7	-	6.3	-	6.6
Others	-	13.9	-	17.7	-	22.8	-	23.3	-	24.7

Source: Economic Statistics Yearbook, BOK.

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Individual Portfolio Composition
(%)

	1975	1978	1980	1981	1982
<u>Assets</u>					
Money	19.9	16.9	12.7	9.2	9.5
<u>Deposits</u>					
Time & savings	35.9	37.3	38.9	39.8	41.7
Investment & finance cos.	3.4	3.6	2.8	2.2	1.7
Insurance	3.7	4.0	5.4	5.9	7.0
Trust	3.6	3.0	4.4	4.3	4.0
Industrial papers	-	-	-	5.1	4.1
Securities	29.4	31.3	32.1	31.6	30.4
Debenture	1.1	1.7	3.3	3.3	3.2
Stocks	24.8	24.1	21.0	18.0	15.9
Beneficiaries	0.3	1.9	3.4	5.2	7.8
Other loans	2.3	2.4	1.3	0.8	0.7
Equities other than stock	0.6	0.5	0.5	0.5	1.0
<u>Liabilities</u>					
Bank loans	28.8	24.4	25.9	24.3	25.7
Other loans	4.7	5.6	8.1	9.0	9.1
Trade credits	2.0	5.7	13.2	15.9	17.4

Source: Economic Statistics Yearbook, BOK.

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COUNTRY ECONOMIC MEMORANDUMFinancial System: Sources of Finance
(Ratio - securities on total loan channeled by different categories)

	1974		1975		1976		1977		1978		1979		1980		1981		1982	
	Amount	% of total	Amount	% of total	Amount	% of total	Amount	% of total	Amount	% of total	Amount	% of total	Amount	% of total	Amount	% of total	Amount	% of total
Loans and Credits		73.9		-		72.1		70.4		69.4		71.6		72.3		70.7		69.8
		-		-		(73.2)		-		(70.6)		-		(73.6)		(71.4)		(70.6)
Bank loans	2,619.0	55.0	3,338.5	(55.6)	4,249.0	53.0	5,265.4	49.1	7,678.7	50.3	10,818.7	48.4	14,462.9	46.7	19,003.5	44.2	23,938.9	43.9
Insurance loans /a	148.0	3.1	40.3	-	51.0	-	105.7	0.9	179.4	1.1	407.0	1.8	603.0	1.9	890.5	2.1	1,409.4	2.6
Investment and finance company loans	-	-	192.7	(3.2)	303.0	4.0	393.5	3.7	637.9	4.2	901.5	4.0	997.3	3.2	1,467.4	3.2	1,813.4	3.3
Other loans (includes dev. banks)	919.0	19.4	1,007.6	(16.8)	1,326.0	16.0	1,969.0	18.4	2,901.6	19.0	4,183.2	18.7	6,294.3	20.3	8,650.1	20.1	11,195.8	20.5
Government loans	431.0	9.1	502.7	(8.4)	712.0	-	961.5	9.0	1,433.7	9.4	2,016.4	9.0	2,604.5	8.4	3,741.1	8.7	4,721.7	8.7
Trade credits	643.0	14.0	918.5	(15.3)	1,397.0	17.0	2,020.4	18.9	2,441.3	16.0	4,028.9	18.0	5,999.8	19.4	9,273.0	21.6	11,505.6	21.1
Subtotal	4,760.0	100.0	6,000.3	(100.0)	8,038.0	100.0	10,715.5	100.0	15,272.6	100.0	22,355.7	100.0	30,961.8	100.0	43,025.6	100.0	54,586.8	100.0
Securities	1,640.9	25.5	2,153.3	26.1	3,172.1	27.9	4,504.3	29.1	6,724.7	30.2	8,853.4	27.9	11,846.4	27.0	15,778.3	25.9	20,967.3	26.8
Nonfinancial	1,519.1	(23.6)	2,036.8	(24.7)	3,011.2	26.5	4,235.8	27.4	6,355.5	(28.5)	8,380.1	(26.7)	11,093.4	25.3	15,179.9	25.0	20,195.7	(26.1)
Industrial Papers	43.3	0.7	83.8	(1.0)	139.9	(1.2)	235.4	(1.5)	301.1	(6.4)	510.5	(1.6)	1,086.7	(2.5)	2,030.3	3.3	2,644.5	(3.4)
Total		=		=		100.0		100.0		100.0		100.0		100.0		100.0		100.0
% increase in bank loans	-	-	-	-	62.2	-	-	-	80.7	41.0	33.6	31.3	26.0	-	-	-	-	-
% increase in investment and finance companies	-	-	-	-	-	-	-	-	110.5	41.3	10.6	67.2	8.8	-	-	-	-	-
% increase in other loans	-	-	-	-	44.3	-	-	-	118.8	44.2	50.5	37.4	29.4	-	-	-	-	-
% increase in trade credits	-	-	-	-	117.3	-	-	-	20.5	51.4	48.9	54.6	24.1	-	-	-	-	-

/a Insurance loans and trust loans.

Note: 1983 figures are not available.

Source: Economic Statistics Yearbook, BOK.

KOREACOUNTRY ECONOMIC MEMORANDUMCommercial BanksGuarantee on Bonds

	Loans from banking funds (A)	Bond guarantees (B)	B/(A+B) (C)
1970	-	-	-
1971	-	-	-
1972	-	-	-
1973	987.10	0.30	0.03
1974	1,534.10	5.37	0.35
1975	1,847.20	25.32	13.50
1976	2,332.30	100.93	4.15
1977	2,867.10	222.97	7.22
1978	4,050.80	419.62	9.39
1979	5,401.80	734.19	11.87
1980	7,209.80	1,321.25	15.49
1981	9,544.40	1,766.85	15.62
1982	11,800.60	2,436.69	17.11
1983	13,580.60	3,393.91	19.99

Source: Monthly Review, Securities Supervisory Board.

KOREACOUNTRY ECONOMIC MEMORANDUMBank Loan Proportions Adjusted for Bond Guarantees

	Bank loans, bonds and guarantees (A)	Total loans and total bond guarantees (B)	A/B (%) (C)	Bank loans total loans (D)
1972	-	-	-	-
1973	-	-	-	-
1974	2,628.92	4,750.87	55.3	55.3
1975	3,367.94	6,000.25	55.8	55.6
1976	4,356.28	8,155.53	53.4	52.9
1977	5,521.17	11,001.01	50.2	49.1
1978	8,159.01	15,835.70	51.5	50.3
1979	11,679.68	23,407.15	50.0	48.4
1980	15,946.54	32,800.47	48.6	46.7
1981	20,967.15	45,538.08	46.0	44.2
1982	n.a.	n.a.	46.1	43.8

Sources: Monthly Bulletin - BOK
Monthly Review, Securities Supervisory Board

KOREACOUNTRY ECONOMIC MEMORANDUMAmounts and Ratios of Different Types of Bonds Outstanding
(Billion won or %) :

	Gov't and corporate bonds (A = B+C)	Government bonds and treasury notes (B)	Corporate bonds (C)	Guaranteed corporate bonds (D)	C/A (E)	D/C (F)
1975	129.54	68.22	61.32	38.12	47.3	62.2
1976	268.29	140.06	128.23	117.53	47.8	91.7
1977	519.88	233.82	286.06	285.51	55.0	99.8
1978	946.71	357.81	588.90	562.90	62.2	95.3
1979	1,493.67	383.72	1,109.95	1,051.45	74.3	94.7
1980	2,346.04	506.87	1,839.17	1,838.67	78.4	94.7
1981	3,298.61	722.33	2,576.28	2,512.48	78.1	97.5
1982	4,617.75	1,206.00	3,411.75	3,321.95	73.9	97.4
1983	5,504.18	985.62	4,518.56	4,486.71	82.1	99.3

Source: Bank of Korea, Monthly Bulletin.

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COUNTRY ECONOMIC MEMORANDUM

Annualized Yields on Different Types of Bonds

	<u>Gov't Bonds</u>		<u>Public</u>	<u>Corpo- rate</u>	<u>A/D</u>	<u>B/D</u>	<u>C/D</u>
	<u>Grain</u>	<u>Housing</u>	<u>Industrial finance</u>				
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
1975	-	21.4	21.1	20.1	-	1.06	1.05
1976	-	22.4	21.4	20.4	-	1.09	1.04
1977	18.2	22.6	21.0	20.1	0.91	1.12	1.04
1978	20.1	22.9	22.6	21.1	0.95	1.09	1.07
1979	24.3	26.7	25.7	26.7	0.91	1.00	0.96
1980	27.7	30.1	28.3	30.1	0.92	1.00	0.94
1981	21.1	23.6	24.6	24.4	0.86	0.97	1.01
1982	16.5	17.2	17.7	16.8	0.98	1.02	1.05
1983	14.6	13.0	15.1	14.2	1.03	0.91	1.06

/a Simple average of monthly rates.

/b A is for 1977-83; rest are for 1975-83.

Source: BOK, Monthly Statistical Bulletin.

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COUNTRY ECONOMIC MEMORANDUM

Bond Trading Under Repurchase or Reverse Repurchase Agreements
(Million won)

Year or month	Under reverse repurchase agreement		Outstanding at year or month end - (3)	Under repurchase agreement		Outstanding at year or month end (6)	Total outstanding (7)	Secondary market activity (1+4) (8)	Tertiary activity (2+5) (9)	Balance (10)	Repo outstanding listed of bonds (%) (11)
	Purchase (1)	Sales (2)		Sales (4)	Repurchase (5)						
1977	15,418	13,500	1,818	500	-	500	2,318	15,918	13,500	15,283	0.68
1978	201,759	178,848	24,729	861	990	372	25,101	302,620	382,458	22,911	5.84
1979	324,906	337,079	12,556	1,021	1,392	-	12,566	325,927	664,398	-12,173	2.33
1980	284,758	278,402	18,912	500	500	-	18,912	285,258	564,160	6,358	2.11
1981	313,365	306,981	25,295	5,105	5,105	-	25,295	318,470	630,556	6,384	1.65
1982 Jan	34,812	46,347	13,760	-	-	-	-	-	-	-	-
Feb	36,099	30,281	19,577	-	-	-	-	-	-	-	-
Mar	54,787	62,546	11,818	-	-	-	-	-	-	-	-
Apr	56,867	40,571	28,114	-	-	-	-	-	-	-	-
May	26,751	46,129	8,736	-	-	-	-	-	-	-	-
Jun	32,618	19,995	21,358	-	-	-	-	-	-	-	-
1982 1-6	241,934	245,869	21,358	-	-	-	21,358	241,934	-	-	-

Source: Introduction to the Korean Securities Market, 1982.

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Distribution of Shareholdings

Size of holding	Number of holders					Value of shares (W'000) (% in brackets)				
	Dec 1981	Jun 1982	Dec 1982	Jun 1983	Dec 1983	Dec 1981	Jun 1982	Dec 1982	Jun 1983	Dec 1983
Less than 100	169,775	156,683	158,875	147,219	175,088	6,536 (0.2)	5,968 (0.1)	5,948 (0.1)	5,378 (0.1)	7,634 (0.1)
100 - 999	277,476	276,356	276,641	237,290	267,609	114,371 (3.0)	113,732 (2.6)	115,366 (2.4)	93,197 (1.9)	104,456 (1.3)
1,000 - 9,999	196,215	193,272	191,367	192,570	204,818	635,087 (15.0)	599,899 (13.7)	649,247 (13.7)	705,619 (14.3)	684,647 (12.2)
10,000 - 99,999	48,252	49,318	50,281	49,126	54,917	1,306,701 (30.5)	1,352,042 (30.8)	1,376,152 (29.0)	1,226,037 (27.0)	1,442,817 (25.8)
100,000 and more	4,558	4,995	5,011	5,172	6,078	2,181,387 (51.3)	2,320,064 (52.8)	2,606,577 (54.8)	2,804,076 (56.7)	3,365,707 (60.0)
<u>Total</u>	<u>696,276</u>	<u>680,624</u>	<u>682,175</u>	<u>631,377</u>	<u>708,510</u>	<u>4,244,802</u> (100.0)	<u>4,391,705</u> (100.0)	<u>4,753,290</u> (100.0)	<u>4,944,307</u> (100.0)	<u>5,605,261</u> (100.0)

KOREACOUNTRY ECONOMIC MEMORANDUMOwnership of Listed Stocks
(W'000, % in brackets)

Type of holders	Shares held				
	Dec 1981	Jun 1982	Dec 1982	Jun 1983	Dec 1983
Government and state corporations	86,710 (1.8)	86,765 (2.0)	35,636 (0.8)	16,876 (0.3)	11,492 (0.2)
Banking institutions	239,860 (5.7)	249,838 (5.7)	246,102 (5.2)	281,172 (5.7)	339,140 (6.0)
Securities companies	95,612 (2.3)	112,952 (2.6)	167,183 (3.5)	150,111 (3.0)	260,462 (4.6)
Insurance companies and other corporations	1,001,563 (23.8)	1,048,152 (23.9)	1,293,451 (27.2)	1,402,450 (28.4)	1,622,109 (30.0)
Individuals	2,737,902 (64.5)	2,804,212 (63.9)	2,914,027 (61.3)	2,996,245 (60.6)	3,246,484 (57.9)
Foreigners	83,155 (1.9)	89,786 (1.9)	96,891 (2.0)	97,453 (2.0)	125,574 (2.2)
<u>Total</u>	<u>4,244,802</u> <u>(100.0)</u>	<u>4,391,705</u> <u>(100.0)</u>	<u>4,753,290</u> <u>(100.0)</u>	<u>4,944,307</u> <u>(100.0)</u>	<u>5,605,261</u> <u>(100.0)</u>

Sources: Korea Stock Exchange; Securities Statistics Yearbook.

KOREACOUNTRY ECONOMIC MEMORANDUMRatio of Book Value of Capital Stock to Real Capital in Steady State

Depreciation rate	Gross investment to real capital stock (I/K)				
	0.05	0.10	0.15	0.20	0.30
0.10	0.64 (0.08)	0.75 (0.13)	0.79 (0.19)	0.82 (0.24)	0.84 (0.36)
0.12 (+50%)	0.49 (0.10)	0.62 (0.16)	0.69 (0.22)	0.73 (0.27)	0.83 (0.36)
0.14	0.39 (0.13)	0.54 (0.19)	0.61 (0.25)	0.66 (0.30)	0.72 (0.42)
0.15 (+100%)	0.32 (0.16)	0.47 (0.21)	0.54 (0.28)	0.60 (0.33)	0.66 (0.45)

Note: Figures in parentheses give the ratio of gross investment to book value of capital stock.

Sources: Korea Stock Exchange
Economic Statistics Yearbook - BOK

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COUNTRY ECONOMIC MEMORANDUM

Ratio of Book Value of Capital Stock to Actual Capital

	0.05	0.10	0.15	0.20	0.30
0.07	0.58 (0.09)	0.70 (0.14)	0.76 (0.20)	0.79 (0.25)	0.83 (0.36)
0.08	0.54 (0.09)	0.67 (0.15)	0.73 (0.21)	0.77 (0.26)	0.80 (0.38)
0.09	0.51 (0.10)	0.64 (0.16)	0.70 (0.21)	0.74 (0.27)	0.78 (0.38)

Note: Figures in parentheses give the ratio of gross investment to book value of capital stock.

Sources: Korea Stock Exchange Securities
Securities Statistics Yearbook

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COUNTRY ECONOMIC MEMORANDUM

Size Structure of the Textile Industry, April 1981

	<u>Textiles</u>		<u>Clothing</u>		<u>Textile industry</u>	
	<u>Small & medium</u>	<u>Large</u>	<u>Small & medium</u>	<u>Large</u>	<u>Small & medium</u>	<u>Large</u>
No. of establishments	4,756 (96.7)	164 (3.3)	2,678 (95.3)	133 (4.7)	7,434 (96.2)	297 (3.8)
No. of employees	206,312 (52.6)	186,270 (47.4)	111,284 (52.5)	100,807 (47.5)	317,596 (52.5)	287,077 (47.5)
Output (billion won)	2,012.2 (35.9)	3,589.4 (64.1)	683.3 (34.6)	1,290.4 (65.4)	2,695.4 (35.6)	4,879.8 (64.4)
Exports (billion won)	1,962.0 (36.0)	3,492.4 (64.0)	675.3 (35.4)	1,233.8 (64.6)	2,637.4 (35.8)	4,726.2 (64.2)

Notes: (1) The survey covered all business establishments with at least 5 workers. Figures in parentheses denote percent relative shares.

(2) Small and medium industries are those industries that employ less than 300 employees.

Source: Report on Mining and Manufacturing Survey, 1981

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COUNTRY ECONOMIC MEMORANDUM

Employment in the Textile Industry, 1978-82

(Unit: persons)

	Total	Textiles	Clothing
1976	639,939	320,606	319,333
1977	688,362 (7.6)	332,949 (3.8)	355,443 (11.3)
1978	746,620 (8.5)	353,951 (6.3)	392,669 (10.5)
1979	769,766 (3.1)	385,463 (8.9)	384,303 (-2.1)
1980	731,963 (-4.9)	363,950 (-5.6)	368,013 (-4.2)
1981	795,405 (8.7)	413,249 (13.5)	382,156 (3.8)
1982	744,189 (-6.4)	360,834 (-12.7)	383,355 (0.3)

Note: Figures in parentheses denote percent annual growth rate.

Source: Ministry of Commerce and Industry.

KOREACOUNTRY ECONOMIC MEMORANDUMLabor and Capital Costs, 1981 and 1983
(As % of total fabric costs)

	Cost element	
	Labor	Capital
Brazil		
1981	9.8	43.9
1983	11.3	46.4
Germany		
1981	24.7	25.0
1983	25.0	21.1
India		
1981	8.7	30.0
1983	5.4	29.9
Japan		
1981	13.7	27.5
1983	14.6	25.6
Korea		
1981	4.9	27.9
1983	6.4	22.5
United States		
1981	17.2	36.3
1983	21.5	26.3

Source: International Textile Manufacturing Federation (1983, Table 1).

KOREACOUNTRY ECONOMIC MEMORANDUM

Trends in Nominal Wages in Textile Industry
and Manufacturing Sector, 1976-83
(Average monthly earnings of regular employees, won)

Year	<u>Textile</u>		<u>Clothing</u>		<u>Manufacturing</u>	
	<u>Earnings</u>	<u>% change</u>	<u>Earnings</u>	<u>% change</u>	<u>Earnings</u>	<u>% change</u>
1976	45,681	36.8	35,789	42.3	51,685	34.7
1977	56,698	24.1	45,737	27.8	69,168	33.8
1978	74,480	31.4	60,878	33.1	92,907	34.3
1979	98,574	32.3	80,478	32.2	119,515	28.6
1980	121,193	23.0	97,489	21.1	146,684	22.7
1981	144,196	19.0	116,913	19.9	176,176	20.1
1982	164,438	14.0	132,932	13.7	202,117	14.7
1983	183,093	11.3	150,867	13.5	226,790	12.2

Source: Economic Planning Board.

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Trends in Wage and Labor Costs, 1976-82
(%)

Year	EPI A	Nominal wages		Real wages		Productivity		Labor costs	
		Textiles B	Clothing	Textiles C = B - A	Clothing	Textiles D	Clothing	Textiles E = C - D	Clothing
1976	14.5	36.8	42.3	22.3	27.8	12.3	0.6	10.0	27.2
1977	7.2	24.1	27.8	16.9	20.6	3.6	14.9	13.3	5.7
1978	23.9	31.4	33.1	7.5	9.2	7.4	20.1	0.1	-10.9
1979	18.0	32.3	32.2	14.3	14.2	11.9	17.4	2.4	-3.2
1980	25.1	23.0	21.1	-2.1	-4.0	19.0	17.7	-21.1	-21.7
1981	15.6	19.0	19.9	3.4	4.3	21.8	43.7	-17.5	-39.4
1982	4.3	14.0	13.7	9.7	9.4	0.6	-22.0	8.8	31.4

Note: Export Price Index (EPI) is of textile products and apparel. It is preferred to Wholesale Price Index (WPI) because the latter includes imports and excludes exports; hence it does not reflect adequately the prices paid to Korean textile manufacturers. On the other hand, EPI does since about 70% of Korean textile industry output is exported. EPI is also a better deflator of wages as a cost of production than is the Consumer Price Index (CPI).

Source: EPI is from Bank of Korea, Economic Statistics Yearbook; however, it has been adjusted for exchange rate changes. Productivity data is from Korea Productivity Center; and wage data is from Economic Planning Board.

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Wage Costs in Textiles (Spinning and Weaving)
in the World's Significant Textile Producers, 1980-82
 (Gross earnings, US\$ per hour) /a

	1982	1981	1980
Holland	10.17	9.16	11.68
Switzerland	9.44	8.18	9.65
Belgium	9.14	9.38	11.82
Norway	9.11	9.26	9.62
Denmark	8.78	8.80	9.12
West Germany	8.38	8.17	10.65
United States	7.53	7.03	6.37
Sweden	7.52	9.55	10.43
Canada	7.31	6.64	6.25
Italy	7.06	7.23	9.12
France	6.36	6.40	8.57
Finland	6.17	5.48	5.62
Austria	5.84	5.04	6.42
Venezuela	5.73	5.63	-
Japan	5.64	4.90	4.35
United Kingdom	5.39	5.57	5.75
Greece	4.76	3.58	4.03
Spain	4.64	4.48	4.90
Ireland	4.28	4.37	5.13
Colombia	2.88	1.76	-
Chile	2.63	2.57	1.93
Syria	2.07	1.58	0.96
Nigeria	1.93	-	-
South Africa	1.67	-	-
Brazil	1.61	2.39	1.57
Portugal	1.54	1.88	1.68
South Korea	1.53	1.35	0.78
Hong Kong	1.40	1.42	1.91
Argentina	1.12	2.03	3.33
Turkey	0.96	1.07	0.95
Mexico	0.91	3.06	3.10
Uruguay	0.89	-	1.76
Peru	0.87	-	-
Egypt	0.73	0.43	0.39
India	0.66	0.69	0.60
Thailand	0.53	0.42	0.33
Tanzania	0.50	-	-
Kenya	0.49	-	-
Pakistan	0.37	0.42	0.34
Sri Lanka	0.32	0.16	-
Ethiopia	0.25	-	-

/a Gross earnings equals basic wage plus all other payments made to the worker including holiday pay, bonuses (for long service etc.) and various allowances (for sickness, meals, etc.) for a medium-sized plant working on a three-shift basis.

Note: Changes in US dollar wage costs can also arise out of exchange rate changes.

Source: Survey conducted by Werner International Management Consultants; cited by Textile Month - The International Textile Journal, April 1983, Table 1, and Cable, V. and Baker, B. (1983, Table 49).

KOREACOUNTRY ECONOMIC MEMORANDUMPrices of Chemical Fibers - Imported and Home-Made, October 1983
(US \$ per ton)

	Price of imports (A)	Price of home-made		B/A (%)	
		Domestic use (B)	Export use	Domestic use (C)	Export use
Nylon fiber	1,200	1,719	1,310	131	109
Polyester fiber - TPA	687	889	706	130	103
EG	385	929	455	242	118
Acrylic fiber - AN	615	1,123	636	183	103

Source: Ministry of Commerce and Industry.

KOREACOUNTRY ECONOMIC MEMORANDUMImports of Foreign Technology by Payment and Year, 1962-83
(US\$'000)

	Textiles	Chemical textiles	Total textiles	Total Korea
1962-66	148	-	148	777
1967-71	111	699	810	16,258
1972-76	406	8,001	8,407	96,508
1977	301	4,124	4,424	58,056
1978	1,709	3,727	5,436	85,065
1979	1,425	4,100	5,525	93,934
1980	605	993	1,598	107,232
1981	870	423	1,293	107,104
1982	656	1,128	1,784	115,689
1983	180	4,068	4,248	149,501

Source: Ministry of Science and Technology, Science and Technology Annual.

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COUNTRY ECONOMIC MEMORANDUM

Patents Registered in the Textile Industry and
in Korea as a Whole, 1976-83

	1976	1977	1978	1979	1980	1981	1982	1983
Textile	30	9	6	58	216	138	177	74
Total Korea	479	274	427	1,419	1,632	1,808	2,609	2,433

Source: Ministry of Science and Technology, Science and Technology Annual.

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COUNTRY ECONOMIC MEMORANDUM

Korea's Expenditure on R&D as a Percent of Total Sales, 1979-82

	1979	1980	1981	1982
Textile	0.33	0.53	0.72	0.23
Manufacturing	0.33	0.50	0.67	0.65
Memorandum item:				
Japan: Textile	0.82	-	1.09	-
Manufacturing	1.71	-	1.91	-

Source: Ministry of Science and Technology.

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Textile Exports by Item, 1975-83
(US\$'000)

	1975	1976	1977	1978	1979	1980	1981	1982	1983
Cotton yarns	69,557	93,457	117,669	206,822	264,534	332,869	276,235	228,155	229,350
Worsted & woolen yarns	2,497	13,112	22,790	23,057	35,000	56,242	76,308	64,462	76,835
Synthetic yarns	69,867	86,354	90,092	91,457	126,685	236,283	241,754	216,550	249,667
Cotton fabrics	110,896	156,457	192,768	243,589	293,381	345,041	295,850	306,179	341,135
Worsted & woolen fabrics	20,910	27,672	38,862	48,961	51,017	75,501	98,168	106,000	103,844
Silk fabrics	42,172	56,771	71,475	121,471	123,932	106,336	114,220	100,224	94,970
Rayon fabrics	3,517	19,857	9,387	8,652	14,641	14,345	23,770	24,176	16,021
Synthetic fabrics	128,209	197,203	263,165	468,827	540,298	722,638	949,475	880,795	1,014,643
Embroidery	35,281	48,403	72,545	95,396	105,334	88,925	95,846	101,034	99,900
Warp knitting fabrics	7,413	8,454	17,836	14,371	14,565	14,363	16,692	10,867	10,716
Sweters	223,315	314,878	398,637	460,345	400,589	488,089	628,633	562,972	557,919
Socks & stockings	51,533	71,963	72,298	93,620	108,264	103,253	115,529	114,877	96,896
Shibori	84,450	156,942	105,179	136,299	172,832	87,602	82,015	91,132	-
Clothing	844,916	1,334,465	1,394,769	1,790,304	2,073,196	2,178,385	2,904,102	2,884,455	2,819,754
Raw silk	22,040	11,961	106,706	96,918	81,697	65,315	25,963	33,979	38,948
Others	153,624	142,189	70,129	81,802	95,305	128,536	241,247	198,684	300,281
<u>Total</u>	<u>1,870,197</u>	<u>2,740,138</u>	<u>3,039,307</u>	<u>3,981,891</u>	<u>4,501,330</u>	<u>5,014,323</u>	<u>6,185,807</u>	<u>5,924,541</u>	<u>6,050,879</u>
	(28.1)	(46.5)	(10.9)	(31.0)	(13.0)	(11.4)	(23.4)	(-4.2)	(2.1)

Notes: Figures in parentheses denote annual growth rates (nominal).

Source: Ministry of Commerce and Industry.

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Exports of Clothing by Item, 1981-83 October
(US\$'000)

Items	1981 (A)	1982 (B)	1982 Jan-Oct (C)	1983 Jan-Oct (D)	B/A (%)	D/C (%)
<u>Woven Clothing</u>	<u>2,039,250</u>	<u>1,956,614</u>	<u>1,707,126</u>	<u>1,458,778</u>	<u>95.9</u>	<u>85.5</u>
MB overcoats	99,803	73,691	67,390	57,115	73.8	84.8
MB trousers	79,107	79,036	63,579	65,052	99.9	102.3
MB jackets	376,362	345,358	306,834	224,089	91.8	73.0
WGI jackets	285,147	297,820	260,916	259,488	104.4	99.5
MB suits	144,844	115,294	105,636	48,453	79.6	55.3
WGI suits	26,815	27,576	22,285	20,054	102.8	90.0
MB outerwear	163,713	182,817	164,405	96,262	111.7	58.6
WGI outerwear	90,153	105,902	89,872	85,035	117.5	94.6
WGI dresses	56,575	68,116	53,935	73,239	120.5	135.8
WGI blouses	118,242	142,732	120,640	126,187	120.7	104.6
WGI skirts	16,969	17,141	13,643	17,057	101.0	125.0
MB shirts	502,980	470,170	368,270	318,875	83.5	86.6
MB underwear	11,929	12,641	11,267	7,416	106.0	65.8
WGI underwear	14,531	13,900	12,045	10,922	95.7	90.7
Ties	2,237	838	659	1,075	37.5	163.2
Headwear	41,388	42,684	36,068	28,206	103.1	78.2
Other	8,514	10,897	9,682	10,254	128.0	105.9
<u>Knitted Clothing</u>	<u>1,040,609</u>	<u>1,002,806</u>	<u>870,735</u>	<u>849,504</u>	<u>96.4</u>	<u>97.6</u>
Gloves	17,793	21,280	18,958	14,193	119.6	74.9
Panties	17,026	15,893	12,744	15,563	93.3	122.1
U/wear, nt/dresses	88,886	123,537	98,649	125,909	139.0	127.6
Pantyhoses	24,289	25,268	21,304	20,157	104.0	94.6
Shirts	127,046	126,354	101,942	110,086	99.5	108.0
Sweaters/pullovers	628,633	562,972	510,651	464,745	89.6	91.0
Dresses, skirts, suits	26,232	27,326	21,755	21,717	104.2	99.8
Other outerwear	57,593	54,540	46,538	42,152	94.7	90.6
Brassieres	48,713	42,424	35,184	32,400	87.1	92.1
Headwear	3,437	2,458	2,347	2,151	71.5	91.7
Other	961	753	665	431	78.4	64.8
Socks & stockings	115,529	114,877	100,483	80,905	99.4	80.5
Other knitted	16,692	10,867	9,758	8,841	65.1	90.6
<u>Total</u>	<u>3,212,080</u>	<u>3,085,164</u>	<u>2,688,101</u>	<u>2,398,028</u>	<u>96.0</u>	<u>89.2</u>

Notes: MB - Men and boys
WGI - Women and girls

Source: Korea Garments and Knitwear Export Association.

KOREA

COUNTRY ECONOMIC MEMORANDUM

Textile Exports by Region, 1972-83
(US\$ million)

	1972	1974	1976	1978	1979	1980	1981	1982	1983
Quota areas	385.6 (54.6)	708.1 (48.5)	1,437.0 (52.4)	1,853.1 (46.5)	2,051.9 (55.1)	2,335.4 (46.6)	2,906.5 (47.0)	2,985.4 (50.4)	3,276.4 (54.2)
USA	282.0 (39.9)	336.5 (23.1)	754.7 (27.5)	987.2 (24.8)	980.3 (21.8)	1,113.5 (22.2)	1,468.2 (23.7)	1,619.0 (27.3)	1,981.1 (32.7)
EEC	61.4 (8.7)	287.7 (19.7)	489.0 (17.8)	702.2 (17.7)	889.9 (19.8)	1,040.9 (20.6)	1,146.9 (18.5)	1,045.6 (17.6)	949.8 (15.7)
Canada	33.7 (4.8)	92.0 (4.2)	127.7 (4.7)	114.2 (2.9)	128.1 (2.8)	117.4 (2.3)	170.4 (2.8)	188.5 (3.2)	223.7 (3.7)
Sweden	8.5 (1.2)	21.9 (1.5)	65.6 (2.4)	49.5 (1.3)	53.6 (1.2)	63.6 (1.3)	65.4 (1.1)	67.3 (1.1)	51.1 (0.8)
Nonquota areas	321.5 (45.4)	751.9 (51.5)	1,303.1 (47.6)	2,128.8 (53.5)	2,451.0 (54.4)	2,678.9 (53.4)	3,279.3 (53.0)	2,939.2 (49.6)	2,774.4 (45.8)
Japan	182.6 (25.8)	521.2 (35.7)	669.0 (24.4)	1,097.8 (27.6)	1,266.9 (28.1)	885.0 (17.6)	1,018.5 (16.5)	974.1 (16.4)	721.6 (11.9)
Hong Kong	51.7 (7.3)	47.9 (3.3)	123.1 (4.5)	163.1 (4.1)	205.0 (4.6)	336.5 (6.7)	436.5 (7.1)	262.2 (4.4)	259.0 (4.3)
Middle East	11.1 (1.5)	22.7 (1.5)	189.0 (6.9)	228.9 (5.8)	219.9 (4.8)	230.2 (4.6)	286.7 (4.6)	341.2 (5.8)	563.5 (9.3)
Singapore	5.3 (0.8)	19.1 (1.3)	25.9 (1.0)	69.3 (1.8)	85.1 (1.9)	95.0 (1.9)	107.9 (1.7)	132.2 (2.2)	146.6 (2.4)
Other	70.8 (10.0)	141.0 (9.7)	296.0 (10.8)	569.7 (14.2)	674.1 (15.0)	1,132.2 (22.6)	1,429.7 (23.1)	1,229.5 (20.8)	1,083.7 (17.9)
<u>Total</u>	<u>707.1</u> (100.0)	<u>1,460.0</u> (100.0)	<u>2,740.1</u> (100.0)	<u>3,981.9</u> (100.0)	<u>4,602.9</u> (100.0)	<u>5,014.3</u> (100.0)	<u>6,185.8</u> (100.0)	<u>5,924.5</u> (100.0)	<u>6,050.8</u> (100.0)

Note: Figures in parentheses denote percent ratio to the total.

Source: Ministry of Commerce and Industry.

KOREACOUNTRY ECONOMIC MEMORANDUMExport and Import Ratios in Selected Countries
(%)

	Textile		Apparel	
	Export/ output	Import/ consumption	Export/ output	Import/ consumption
United States				
1971	5.6	9.7	1.0	9.3
1975	10.0	8.5	1.9	13.7
1979	12.3	6.4	3.1	16.5
United Kingdom				
1970	20.0	14.0	11.0	12.0
1974	25.0	22.0	11.0	20.0
1979	29.0	33.0	18.0	30.0
West Germany				
1970	21.5	20.9	10.7	22.1
1976	31.4	29.7	19.5	41.3
1979	34.8	33.7	24.0	46.9
Japan				
1970	30.0	4.3	7.8	1.1
1976	31.8	11.0	2.3	5.8
1979	21.5	18.0	2.1	9.2

Note: Individual country statistics. Refer to MIII's Report on Textile Industry in Europe and the US for details.

Source: I. Yamazawa, "Renewal of the Textile Industry in Developing Countries," Hitotsubashi Journal of Economics, Vol. 24, No. 1, June 1983.

KOREA

COUNTRY ECONOMIC MEMORANDUM

Ratios of Gross and Net Profit to Total Assets and Capital
Stock in Textiles and Clothing, 1976-82
(%)

Year	Textiles				Clothing			
	<u>Gross profit</u>	<u>Net profit</u>	<u>Gross profit</u>	<u>Net profit</u>	<u>Gross profit</u>	<u>Net profit</u>	<u>Gross profit</u>	<u>Net profit</u>
	Total assets	Total assets	Capital stock	Capital stock	Total assets	Total assets	Capital stock	Capital stock
1976	2.14	0.94	16.85	7.39	7.29	4.72	70.68	45.79
1977	1.36	0.55	11.42	4.64	1.02	2.03	8.48	16.91
1978	3.64	1.78	28.34	13.87	-0.55	-1.31	-5.59	-13.21
1979	1.95	0.30	16.92	2.61	-0.31	-0.48	-3.09	-4.68
1980	-1.09	-1.90	-18.34	-23.16	0.99	-0.70	10.21	-7.18
1981	0.13	-0.49	1.74	-6.67	2.48	1.49	29.15	17.55
1982	-0.66	-0.63	-8.53	-8.07	2.79	1.63	28.64	16.66

Source: The Bank of Korea, Financial Statements Analysis.

KOREA

COUNTRY ECONOMIC MEMORANDUM

Industry Comparison of Profitability: Normal Profit to Total Assets Ratio /a
(%)

	Manu- facturing	Textiles wearing apparel & leather	Wood & furniture	Paper printing & publishing	Chemicals, petroleum coal, rubber & plastics	Non-metallic mineral products	Basic metal	Fabricated metal products, machinery and equipment
1973	7.9	10.6	12.2	10.5	8.2	3.6	5.7	6.2
1974	5.7	2.1	-7.0	7.6	7.0	3.6	14.4	6.9
1975	3.9	0.9	-0.5	3.7	7.7	5.8	0.0	6.8
1976	4.6	3.2	1.3	5.1	7.9	4.5	3.2	4.4
1977	4.5	1.4	4.5	6.1	5.2	6.8	3.5	6.0
1978	5.0	2.9	9.0	6.1	8.4	4.8	3.8	2.8
1979	3.4	1.2	1.0	5.5	6.8	4.8	2.7	1.9
1980	-0.2	-0.7	-13.1	-0.2	3.3	2.1	-1.1	-2.9
1981	0.0	0.5	-9.2	-3.7	0.8	0.6	-0.1	-0.3
1982	1.0	-0.1	-6.1	0.1	2.6	1.0	0.7	0.7
1973-77 /b	5.3	3.6	3.4	6.6	7.2	4.9	5.4	6.1
1978-82 /b	1.9	0.8	-3.7	1.6	4.4	2.4	1.2	0.4

/a Normal profit is defined in Korea as net profit from sales and non-sales business activities.

/b Annual average.

Source: Bank of Korea, Financial Statement Analysis for 1982.

KOREA

COUNTRY ECONOMIC MEMORANDUM

Footwear Output and Exports, 1976-83
('000 pairs of shoes)

Type	1976	1977	1978	1979	1980	1981	1982	1983
Leather								
Output	28,702	28,463	31,681	21,293	31,259	38,900	48,576	50,791
Export	18,702	18,463	17,853	16,250	19,094	18,199	27,870	30,727
% exported	65.2	64.9	56.4	76.3	61.1	46.8	57.4	60.5
Rubber								
Output	160,489	171,787	192,490	198,764	190,180	204,119	209,117	217,377
Export	177,391	128,908	169,631	153,650	144,709	171,190	178,773	187,527
% exported	73.1	75.0	88.1	77.3	76.1	83.9	85.5	86.3
Plastic								
Output	21,109	25,265	31,804	24,127	22,204	19,274	23,660	27,522
Export	6,255	6,999	6,737	3,607	8,854	7,407	12,083	13,122
% exported	29.6	27.7	21.2	15.0	39.9	38.4	51.1	47.7
Other								
Output	32,243	40,102	67,400	51,203	50,951	666,266	68,146	75,781
Export	24,163	27,440	44,019	31,628	30,264	34,955	32,445	39,775
% exported	74.9	68.4	65.3	61.8	59.4	52.7	47.6	52.5
Total								
Output	242,543	265,617	323,375	295,387	294,594	328,559	349,499	371,471
Export	166,511	181,810	238,240	205,135	202,921	231,751	251,171	271,151
% exported	68.7	68.5	73.7	69.5	68.9	70.5	71.9	73.0

Source: Ministry of Commerce and Industry.

KOREACOUNTRY ECONOMIC MEMORANDUMProduction Capacity in Footwear, 1976-83
('000 pairs of shoes)

Type:	Leather	Rubber	Plastic	Other	Total
1976	18,000	170,000	24,000	32,800	244,800
1977	20,000	185,000	28,000	44,500	277,500 (13.4)
1978	25,000	215,000	32,000	49,700	321,700 (15.9)
1979	25,000	220,000	32,300	50,000	327,300 (1.7)
1980	25,000	200,000	30,000	41,000	296,000 (-9.6)
1981	25,000	240,000	30,000	43,700	338,700 (14.4)
1982	30,000	253,000	30,000	49,700	362,700 (7.1)
1983	33,000	288,000	30,000	49,600	400,600 (10.4)

Note: Figures in parentheses denote percent annual growth rate.

Source: Ministry of Commerce and Industry.

KOREA
COUNTRY ECONOMIC MEMORANDUM

Hourly Earnings of Production Workers and Estimated Total Hourly Compensation
in Specified Industries Related to Footwear in Eight Countries, 1972-81
(US\$)

Country	Industry	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
<u>Published Average</u>											
<u>Hourly Earnings /a</u>											
Brazil	Leather footwear /b	0.34	0.41	0.48	0.57	0.66	0.74	0.84	0.88	0.86	NA
Hong Kong	Rubber footwear /c	0.46	0.54	0.58	0.58	0.71	0.80	0.94	1.05	1.16	1.18
Italy	Leather footwear /d	0.98	1.21	1.32	1.72	1.71	2.14	2.58	3.09	3.52	3.30
Japan	Leather & leather products /e	1.21	1.57	1.81	2.16	2.37	2.88	3.56	3.60	3.74	4.05
Korea	Leather footwear /f	0.15	0.19	0.24	0.28	0.38	0.44	0.55	0.75	0.71	0.75
	Rubber footwear /g	0.16	0.16	0.22	0.25	0.32	0.42	0.52	0.63	0.64	0.68
Spain	Clothing, footwear & leather /h	0.42-0.47	0.55-0.62	0.69-0.78	0.85-0.98	1.06-1.20	1.53/i	1.98	2.74	2.92	2.95
United States	Footwear, excluding rubber	2.62	2.72	2.90	3.08	3.27	3.48	3.75	4.09	4.42	4.82
<u>Estimated Total</u>											
<u>Hourly Compensation /j</u>											
Brazil	Leather footwear /b	0.43	0.51	0.61	0.72	0.82	0.93	1.06	1.10	1.08	NA
Hong Kong	Rubber footwear /c	0.50-0.53	0.59-0.62	0.63-0.66	0.64-0.67	0.79-0.82	0.88-0.91	1.03-1.08	1.15-1.20	1.31	1.33
Italy	Leather footwear /d	1.75	2.17	2.44	3.19	3.28	4.07	4.55	5.46	6.27	5.78
Japan	Leather & leather products /e	1.35	1.76	2.00	2.44	2.67	3.27	3.99	4.05	4.24	4.59
Korea	Leather footwear /f	0.17-0.18	0.21-0.22	0.28-0.29	0.32-0.34	0.44-0.46	0.50-0.52	0.64-0.67	0.86-0.90	0.87	0.88
	Rubber footwear /g	0.18-0.19	0.18-0.19	0.26-0.27	0.29-0.30	0.36-0.38	0.48-0.50	0.59-0.62	0.72-0.75	0.75	0.80
Spain	Clothing, footwear & leather /h	0.63-0.70	0.82-0.93	1.04-1.17	1.28-1.46	1.59-1.80	2.22/i	2.78	3.84	4.09	4.12
United States	Footwear, excluding rubber /k	3.14	3.30	3.56	3.79	4.05	4.36	4.77	5.22	5.67	6.22

NA - not available

/a Published earnings do not represent the same items of labor compensation in each country because of differences in the treatment of various supplementary benefits. Earnings generally refer to gross payments made to the worker before payroll deductions for taxes and employee social security contributions, and include basic time and piece rates, overtime pay and shift differentials, regular bonuses and premiums, and cost-of-living adjustments. Holiday, vacation and sick-leave pay, bonuses not paid regularly each pay period and other supplementary benefits are included by some countries and excluded by others. Earnings are computed per hour paid for some countries and per hour worked for others. Conversion from the currencies of foreign countries to US dollars was made on the basis of average daily exchange rates, except for Hong Kong.

/b Earnings in the leather footwear industry are estimated on the basis of 1974 leather footwear earnings - estimated from annual earnings by assuming 2,080 hours of work per year - and the average earnings trends in all industry.

/c Daily earnings converted to an hourly basis by assuming 8.5 hours of work per day. Excluding overtime pay and shift differentials. Converted to US dollars using end-of-year exchange rates.

/d Data refer to factory workers in establishments of ten or more employees, and exclude homeworkers, who are paid at a lower rate.

/e Shoes exported from Japan to the United States are made principally of plastics materials. Data for only the leather and leather products industry, which includes leather footwear, are shown in the table, however, because data are not available for plastic footwear. In the Japanese industrial classification system, plastic footwear is combined with rubber products. In 1970, less than one fifth of the factory workers in the rubber products industry group were in plastic footwear plants and they were paid at a lower rate than most workers in the rubber products portion of the industry. In addition, about half of the workers in the plastic footwear industry were homeworkers, who are paid at a lower rate than factory workers. About half of the leather footwear industry were also homeworkers.

/f Earnings in the leather footwear industry are estimated on the basis of average hourly earnings for all employees in leather and leather products industries adjusted for the relative level of production worker leather footwear earnings to all employee leather and leather products earnings in 1972 and 1975-79.

/g Earnings in the rubber and plastic footwear industry are estimated on the basis of average hourly earnings for all employees in rubber products industries adjusted for the relative level of production worker rubber footwear earnings to all employee rubber products earnings in 1972 and 1975-79.

/h Production worker estimate (80-90% of all employee earnings) for 1972-76. Earnings of production workers with regular employment contracts for 1977 and later years. Homeworkers excluded. About 40% of the workers in the Spanish footwear industry are homeworkers, who are paid at a lower rate than factory workers in the industry.

/i Break in series.

/j Total compensation per hour worked includes all direct payments made to the worker (pay for time worked, pay for vacations, holidays and other leave, all bonuses and pay in kind) before payroll deductions of any kind, plus employer expenditures for legally required insurance programs and contractual and private plans for the benefit of employees. Total compensation per hour worked is estimated by adjusting average hourly earnings for items of compensation not included in earnings; the adjustment factors are the best estimates currently available to the Bureau of Labor Statistics. Conversion from the currencies of the foreign countries to US dollars was made on the basis of annual average daily exchange rates for the listed years.

/k Provisional.

Sources: Brazil - Pasquisa Industrial, 1974, Fundacao Instituto Brasileiro de Geografia e Estatistica, Rio de Janeiro, and various economic reports; Hong Kong - Annual Department Report, 1970-73, Commissioner of Labor, Hong Kong, and Wage Statistics, various issues, Census and Statistics Department, Hong Kong; Italy - Hourly Earnings and Hours of Work, various issues, Statistical Office of the European Communities, Luxembourg; Japan - Yearbook of Labor Statistics, various issues, and Monthly Labor Statistics and Research Bulletin, various issues, Ministry of Labor, Tokyo; Korea - Report on Mining and Manufacturing Survey, 1972, 1975 through 1979, and Monthly Statistics of Korea, various issues, Economic Planning Board, Seoul, and Yearbook of Labor Statistics, various issues, International Labor Office, Geneva; Spain - Yearbook of Labor Statistics, 1974, International Labor Office, Geneva, and Boletín Mensual de Estadística, various issues and Salarios, various issues, Instituto Nacional de Estadística, Madrid; and United States - Employment and Earnings, various issues, US Department of Labor, Bureau of Labor Statistics, Washington, D.C.

Source: US Department of Labor, Bureau of Labor Statistics, Office of Productivity and Technology, April 1982.

KOREACOUNTRY ECONOMIC MEMORANDUMImportation of Footwear Patents in Recent Years,
May 1981 - October 1983

<u>Korean company</u>	<u>Company of origin</u>	<u>Item</u>	<u>Date of approval</u>
Hwa Sung	Nike Inc. (USA)	Sports shoes	May 29, 1981
Young Age	Marubenil (Japan)	Dress shoes	Jul 08, 1981
Kum Kang Shoes Co.	Pierre Cardin (France)	Dress shoes	May 31, 1982
Elcanto Shoes Co.	Charles Jourdan (France)	Dress shoes	Jun 08, 1982
Se Won	Asics (Japan)	Sports shoes	Apr 06, 1983
Sam Sung Mool San	Slazenger (UK)	Sports shoes	Oct 07, 1983
Mizuno	Mizuno (Japan)	sports shoes	Oct 17, 1983

Source: Ministry of Commerce and Industry

KOREACOUNTRY ECONOMIC MEMORANDUMExports of Footwear by Country, 1976-83
(US\$ million)

	1976	1977	1978	1979	1980	1981	1982	1983/a
USA	287 (69)	304 (59)	420 (58)	373 (49)	497 (55)	575 (55)	800 (68)	658 (71)
Japan	42	64	97	127	83	86	78	43
UK	12	19	36	47	37	52	33	23
Canada	27	24	27	33	38	53	34	36
France	12	7	21	39	45	33	29	19
Italy	2	4	6	11	20	17	22	32
Others	35	93	119	135	184	233	186	117
<u>Total</u>	<u>417</u>	<u>515</u>	<u>726</u>	<u>765</u>	<u>904</u>	<u>1,049</u>	<u>1,182</u>	<u>928</u>

/a Only nine months.

Note: Figures in parentheses denote percent share in total.

Source: Ministry of Commerce and Industry.

KOREA

COUNTRY ECONOMIC MEMORANDUM

Construction Chronology of Korea's Large Shipyards

	<u>Company</u>	<u>Capacity (GT)</u>
1975	Hyundai Heavy Industries Co., Ltd.	2,000,000
1978	Korea Shipbuilding & Engineering Co., Ltd.	350,000
1980	Samsung Shipbuilding & Engineering Co., Ltd.	100,000
1981	Daewoo Shipbuilding & Heavy Machinery, Ltd.	1,200,000

Source: KIET - Industry Studies II

KOREACOUNTRY ECONOMIC MEMORANDUMKorea's Shipbuilding Capacity
(As of end-December 1982)

	Yearly capacity (GT)	Maximum vessel size (DWT)
Hyundai Heavy Industries (HHI)	2,000,000	1,000,000
Daewoo Shipbuilding & Heavy Machinery	1,200,000	1,000,000
Korea Shipbuilding & Engineering Corp. (KSEC)	350,000	100,000
Samsung Shipbuilding & Engineering Corp.	100,000	65,000
Daesun Shipbuilding & Engineering Corp.	44,000	20,000
Shin-A Shipbuilding Co., Ltd.	30,000	20,000
Other	276,000	15,000
<u>Total</u>	<u>4,000,000</u>	

Source: KIET - Industry Studies II

KOREA

COUNTRY ECONOMIC MEMORANDUM

Korea Shipbuilding Statistics: Production and Exports, 1973-82

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
New Ships										
Domestic										
GT	10,373	18,519	14,064	302,114	89,478	151,409	221,086	190,482	202,147	209,522
US\$'000	5,619	9,720	8,817	53,039	73,993	104,399	190,216	190,877	175,909	187,014
Exports										
GT	1,635	201,832	416,003	551,294	553,660	617,525	304,107	464,449	955,785	1,216,745
US\$'000	2,003	73,552	137,346	298,086	472,396	543,976	372,396	353,436	885,315	1,983,073
Total										
GT	12,008	220,351	430,067	853,408	643,138	768,934	525,193	654,931	1,157,932	1,426,267
US\$'000	7,622	83,272	146,163	351,125	546,389	648,375	562,612	544,313	1,061,224	2,170,087
Ship repairs	N/A	N/A	N/A	N/A	53,824	59,024	78,300	161,293	408,121	703,746
Yachts	N/A	N/A	N/A	N/A	N/A	2,126	6,411	8,560	2,108	1,150
Floating structures	N/A	N/A	N/A	N/A	207,514	216,924	62,355	94,336	108,930	143,260
Total SB. exports (SITC 7353-9)	2,003	73,552	137,346	298,086	733,734	822,050	519,462	617,625	1,404,474	2,831,229
Total Exports	3,225,025	4,460,370	5,081,016	7,715,108	10,046,457	12,710,642	15,055,453	17,504,862	21,253,757	21,853,394
Sb. x/total x (%)	0.1	1.6	2.7	3.9	7.3	6.5	3.5	3.5	6.6	13.0

Source: Shipbuilding Data Bank, Korea Shipbuilding Association; Economic Statistics Yearbook, Bank of Korea.

KOREACOUNTRY ECONOMIC MEMORANDUMImport of Shipbuilding Technologies by Field, 1967-83

	<u>Design</u>	<u>Hull construction</u>	<u>Shipyard management</u>	<u>Others</u>	<u>Total</u>
1967-72	4	1	-	-	5
1973-77	19	6	2	-	27
1978-80	11	13	3	3	30
1981	17	-	1	2	20
1982	12	1	1	-	14
1983	11	3	-	6	20
<u>Total</u>	<u>74</u>	<u>24</u>	<u>7</u>	<u>11</u>	<u>116</u>

Source: Korea Shipbuilding Association.

KOREACOUNTRY ECONOMIC MEMORANDUMAwes - Shipbuilding Forecast for the 1980s

	<u>Million DWTs</u>		<u>Million GRTs</u>		<u>Million CGRTs</u>	
	<u>Con- struction</u>	<u>New orders</u>	<u>Con- struction</u>	<u>New orders</u>	<u>Con- struction</u>	<u>New orders</u>
1975	59.8	26.0	34.4	13.7	20.7	12.3
1976	61.2	19.4	33.9	13.0	20.6	12.4
1977	44.9	16.4	27.0	11.5	21.2	14.0
1978	26.3	10.4	17.4	8.2	16.5	10.8
1979	21.1	26.1	14.1	16.9	14.1	14.2
1980	14.4	30.8	12.6	19.0	12.6	14.4
1981	26.5	27.5	16.7	16.9	13.8	13.5
1982	-	-	16.8	11.4	-	-
<u>Forecast (on an annual basis)</u>						
<u>01/01/82 - 07/01/85</u>						
Low	17.7		11.6		9.9	
Base	21.4		14.5		14.2	
High	23.4		16.1		16.3	
<u>07/01/85 - 07/01/90</u>						
Low	12.4		9.6		12.6	
Base	19.2		14.1		16.6	
High	28.3		19.9		21.1	

Source: Shipbuilding Data Bank, KSA.

KOREACOUNTRY ECONOMIC MEMORANDUMNew Orders by Major Producing Country

	<u>1976</u>		<u>1979</u>		<u>1980</u>		<u>1981</u>		<u>1982</u>	
	<u>GT</u>	<u>%</u>	<u>GT</u>	<u>%</u>	<u>GT</u>	<u>%</u>	<u>GT</u>	<u>%</u>	<u>GT</u>	<u>%</u>
Korea	323	2.5	1,060	6.3	1,706	9.0	1,372	8.1	1,098	9.7
Japan	7,245	56.0	8,337	49.5	9,997	52.7	8,213	48.6	5,650	49.7
Norway	103	0.8	354	2.1	322	1.7	237	1.4	94	0.8
Sweden	323	2.5	286	1.7	285	1.5	355	2.1	199	1.8
United Kingdom	414	3.2	236	1.4	512	2.7	490	2.9	283	2.5
West Germany	310	2.4	741	4.4	417	2.2	761	4.5	496	4.4
Spain	815	6.3	741	4.4	986	5.2	896	5.3	185	1.6
United States	647	5.0	455	2.7	714	3.8	210	1.2	115	1.0
Italy	302	2.3	172	1.0	310	1.6	80	0.5	292	2.6
Finland	116	0.9	269	1.6	285	1.5	321	1.9	111	1.0
France	26	0.2	253	1.5	322	1.7	321	1.9	106	0.9
Netherlands	142	1.1	118	0.7	228	1.2	203	1.2	132	1.2
Denmark	168	1.3	387	2.3	398	2.1	423	2.5	147	1.3
Belgium	57	0.4	454	2.7	109	0.6	74	0.4	51	0.4
Brazil	26	0.2	450	2.7	58	0.3	526	3.1	300	2.6
Poland	906	7.0	802	4.8	182	1.0	151	0.9	187	1.6
Others	1,014	7.8	1,728	10.3	2,138	11.3	2,267	13.4	1,911	16.8
<u>Total</u>	<u>12,937</u>	<u>100.0</u>	<u>16,843</u>	<u>100.0</u>	<u>18,969</u>	<u>100.0</u>	<u>16,900</u>	<u>100.0</u>	<u>11,357</u>	<u>100.0</u>

Source: Shipbuilding Data Bank, Korea Shipbuilding Association, 1983.

KOREACOUNTRY ECONOMIC MEMORANDUMProduction and Export Structure of Electronics by Use
(%)

	1971	1976	1981	1982	1983
Home appliances					
Production	23.9	38.6	41.5	38.7	41.8
Export	12.1	37.6	50.5	42.3	43.1
Industrial products					
Production	13.8	9.0	13.0	16.0	14.6
Export	0.4	5.4	6.6	9.7	11.5
Parts and components					
Production	62.3	52.3	45.4	45.4	43.6
Export	87.5	57.0	42.9	48.1	45.3
<u>Total</u>					
Production	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
Export	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Source: EIAK.

KOREACOUNTRY ECONOMIC MEMORANDUMExport Share of Electronics Firms by Ownership
(US\$ million, %)

	Local firms	Joint venture	Foreign firms	Total
<u>1971</u>				
Value	25	11	53	89
Share	28	12	60	100
<u>1976</u>				
Value	318	235	484	1,037
Share	41	23	46	100
<u>1981</u>				
Value	1,158	274	763	2,196
Share	53	13	34	100
<u>1982</u>				
Value	1,133	239	773	2,144
Share	53	11	36	100
<u>1983 /a</u>				
Value	(758)	(121)	(389)	(1,268)
Share	60	9	31	100

/a Value of exports in parentheses represents total of January-June 1983, namely half-year accumulated total.

Source: EIAK.

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COUNTRY ECONOMIC MEMORANDUM

Import Trend of Electronics Producers
(US\$ million, %)

	Home appliances	Industrial equipment	Parts	Total
<u>1973</u>				
Value	55	69	232	326
%	16.8	12.0	71.2	100.0
<u>1978</u>				
Value	118	198	840	1,156
%	10.2	17.1	72.7	100.0
<u>1979</u>				
Value	159	256	974	1,389
%	11.4	18.4	70.2	100.0
<u>1980</u>				
Value	125	251	1,084	1,460
%	8.6	17.2	74.2	100.0
<u>1981</u>				
Value	143	359	1,241	1,743
%	8.2	20.6	71.2	100.0
<u>1982</u>				
Value	97	651	1,231	1,979
%	4.9	32.9	62.2	100.0

Source: EIAK.

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Comparison of Labor Cost
(1975 = 100)

	Wage index (A)	Labor productivity index (B)	(A)/(B)
<hr/>			
Korea			
1975	100.0	100.0	1.00
1977	180.2	118.2	1.52
1980	382.2	170.3	2.24
Japan			
1975	100.0	100.0	1.00
1977	137.6	117.4	1.17
1980	228.3	160.7	1.42

Sources: Year Book of Labour Statistics

Economic Statistics Monthly Research and Statistics Department -
Bank of Japan

KOREACOUNTRY ECONOMIC MEMORANDUMStructure of Electronics Industry, by Number and Size of Firms /a

No. of employees	Firms		Employees		Share of value added (%)	Value added per firm	Value added per capita
	No.	%	No.	%			
5 - 49	534	60.1	9,721	6.4	4.1	68.0	3.73
50 - 99	140	15.7	10,124	6.7	3.7	235.4	3.26
100 - 299	117	13.2	21,506	14.2	9.4	717.7	3.90
300 - 499	46	5.2	17,540	11.6	8.7	1,684.4	4.42
500 and more	62	7.0	92,760	61.2	74.2	10,680.3	7.14
<u>Total</u>	<u>889</u>	<u>100.0</u>	<u>151,651</u>	<u>100.0</u>	<u>100.0</u>	<u>1,004.4</u>	<u>5.89</u>

/a SITC 3832 only.

Source: EPB, Survey of Manufacturing (1981).

KOREACOUNTRY ECONOMIC MEMORANDUMEmployment by Skill Level

	1981	1982	1983 (June)
Executive	1.0	1.1	1.1
Engineers, skilled workers, white collar /a	60.8	64.5	66.1
Semi-skilled workers /b	90.9	83.3	82.5
Others	4.3	4.5	3.9
<u>Total</u>	<u>156.9</u>	<u>153.4</u>	<u>153.6</u>

/a Inconsistency in the definition of these categories made it impossible to disaggregate further.

/b Semi-skilled workers consist of mostly assembly line workers.

Source: EIAK.

KOREACOUNTRY ECONOMIC MEMORANDUMInvestment Trend /a
(Billion won)

	Electronics and electric machinery	Total manufacturing	Ratio
1973-76	82.1	2,054.6	4.0
1977	70.6	1,379.3	5.1
1978	132.3	2,148.1	6.2
1979	162.8	2,469.1	6.6
1980	91.4	1,867.4	4.9
1981	136.0	1,404.7	9.7
1982	199.7	1,600.5	12.5
1983	308.0	2,079.4	14.9

/a These investment statistics include electronics and electrical machinery together. It is estimated that 80% of the investments are in the electronics sector and about 20% in the electric machinery sector.

Source: KDB, Investment Plan Survey.

KOREACOUNTRY ECONOMIC MEMORANDUMTrend of Capacity Utilization Rates

	1978	1979	1980	1981	1982	1983
General machinery	68.9	74.9	46.8	51.4	52.4	69.0
Electrical machinery	71.1	74.9	65.3	69.0	65.2	76.3
Transport equipment	45.0	43.1	41.9	58.2	61.5	68.1
<u>Total Machinery</u>	<u>63.5</u>	<u>66.2</u>	<u>53.1</u>	<u>61.0</u>	<u>60.9</u>	<u>71.2</u>
Total manufacturing	88.1	81.9	69.5	70.3	69.8	76.7

Source: EPB.

KOREACOUNTRY ECONOMIC MEMORANDUMEmployment Trend
('000 men)

	1978	1979	1980	1981	1982	1983	
						No.	% /a
Fabricated metal	101.8	115.5	107.7	108.4	103.6	107.5	3.76
General machinery	85.5	95.7	81.6	81.8	83.8	89.0	6.21
Electrical machinery	199.5	240.0	212.4	207.8	195.1	213.1	3.23
Transport equipment	84.8	102.3	94.4	94.5	102.2	107.6	5.28
Precision machinery	28.6	33.2	29.9	28.5	27.1	26.2	-3.32
<u>Total Machinery</u>	<u>500.2</u>	<u>586.8</u>	<u>526.2</u>	<u>521.0</u>	<u>511.8</u>	<u>543.4</u>	<u>6.17</u>
Total manufacturing	1,742.1	1,921.8	1,781.4	1,768.7	1,737.3	1,764.8	7.58

/a Percent change 1982/3.

Source: Ministry of Labor.

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Supply Source of Machine Parts
(%)

	<u>Total</u>		<u>Direct mfg.</u>		<u>Subcontracted</u>		<u>Imports</u>	
	<u>No. of parts</u>	<u>Value</u>	<u>No. of parts</u>	<u>Value</u>	<u>No. of parts</u>	<u>Value</u>	<u>No. of parts</u>	<u>Value</u>
Machine tool	100.0	100.0	42.6	59.3	40.5	24.7	16.8	16.0
Agricultural machinery	100.0	100.0	28.3	37.2	52.8	61.4	18.9	1.9
Textile machinery	100.0	100.0	35.3	58.8	44.5	28.5	20.2	12.6
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>37.9</u>	<u>45.2</u>	<u>44.2</u>	<u>46.1</u>	<u>18.1</u>	<u>7.8</u>

Source: Kosami Survey 1980.

KOREACOUNTRY ECONOMIC MEMORANDUMTrend of Overseas Contracts by Kind
(US\$ million)

	<u>1980</u>		<u>1981</u>		<u>1982</u>		<u>1983</u>	
	<u>No.</u>	<u>Value</u>	<u>No.</u>	<u>Value</u>	<u>No.</u>	<u>Value</u>	<u>No.</u>	<u>Value</u>
Civil engineering works	107	3,739	106	5,023	102	4,876	65	5,330
Building	94	3,852	115	7,608	92	6,238	106	4,068
Machinery plant	24	392	23	692	36	1,677	41	449
Telecommunications and power systems	8	271	11	295	25	580	17	536
Services and others	5	5	15	63	7	12	7	61

Source: Ministry of Construction.

KOREACOUNTRY ECONOMIC MEMORANDUMThe Trend of Foreign Exchange Earnings
(US\$ million)

	1979	1980	1981	1982	1983
Value of completed projects (A)	4,216	6,328	8,409	9,463	9,381
Net foreign exchange earnings <u>/a</u> (B)	1,638	1,826	2,102	2,632	2,170
Ratio (A/B) (%)	38.9	28.9	25.0	27.8	23.1
Number of Korean workers (C)	106	131	163	171	162
Value of completed projects per capita (A/C)	39.8	48.3	51.6	55.3	57.9
Earnings per capita (B/C)	15.4	13.9	12.9	15.4	13.4

/a This is different from Table 1 because it is net earnings and it includes commodity exports.

Source: Ministry of Construction.

KOREACOUNTRY ECONOMIC MEMORANDUMComposition of Net Foreign Exchange Earnings
(US\$ million)

	1979	1980	1981	1982	1983
Value of projects completed (A)	4,216	6,328	8,409	9,463	9,381
Net foreign exchange earnings (B)	1,638	1,826	2,102	2,632	2,170
Wages (C)	} 1,249	1,063	1,344	1,557	1,464
Management and others (D)		} 264	336	585	13
Commodity exports (E)	389	498	422	492	693
Ratios					
B/A	38.9	28.8	25.0	27.8	23.1
C/A	n.a.	16.8	16.0	16.5	15.6
E/A	9.2	7.9	5.0	5.2	7.3

Source: Ministry of Construction.

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COUNTRY ECONOMIC MEMORANDUM

Major Components of Project Costs (1982)
 (%)

	Total	Small and medium firms	Large firms
Material	42.01	40.40	42.12
Labor	22.65	39.17	21.47
Machinery and equipment	6.12	4.48	6.24
Subcontract	12.05	10.20	12.18
Other expenses	17.15	5.72	17.96
<u>Total</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>

Source: Korean Contractors Association.

FOOTNOTES

Chapter I

1. World Development Report, 1984, World Bank, Washington, D.C. 1984, Chapter 2 (draft).
2. Although unemployment in the U.S. declined to 8% in 1984, it is still nearly 11% in the European countries with between one third and one half of those unemployed having been without jobs for a year or longer. See S. Ostry, "The World Economy in 1983: Marking Time," Foreign Affairs, Vol. 62, No. 3, 1983, p. 536.
3. It was estimated that the dollar was overvalued by approximately 15-20% against the yen and the deutsche mark in 1982. R.I. Mckinnon, "Financial Causes of Friction between Japan and the U.S.," in E.R. Freid and P.H. Trezise eds., The Future Course of U.S. - Japan Economic Relations, Brookings Institution, Washington, D.C., 1983, pp. 26-29. This has probably changed little over the past two years. The sensitivity of U.S. exports to the dollar parity is revealed by the high growth of U.S. overseas sales during the late 70s when dollar values were closer to equilibrium levels. Gene Grossman has shown that imports into the U.S. compete strongly against domestically produced goods so that a fall in the relative prices of imports results in a switch away from domestic goods and a sharp increase in import demand. G.M. Grossman, "Import Competition from Developed and Developing Countries," Review of Economics and Statistics, Vol., May 1982, pp. 271-281.
4. Pedro-Pablo Kuczynski, "Latin American Debt: Act 2," Foreign Affairs Vol. 62, No. 1, Fall 1983: Because trade financing was scarce, U.S. exports to Latin America, which in 1981 were equivalent to two thirds of the exports to Western Europe fell by 20% in 1982 and continued declining in 1983. Also see, Economist, "Chico Can You Spare A Dime," October 1, 1983, p. 67.
5. Export volume increased by 11% in 1977-78 and 1978-79 and by 7% in 1979-80. In 1980 prices, U.S. exports rose from \$87.4 billion in 1977 to \$224.2 billion in 1980.
6. See for instance, Economist, "Japan: A Survey - What Makes Yoshio Run," July 9, 1983, p. 3; and N. McMullen, The Newly Industrializing Countries, Adjusting to Success, British North American Committee, Washington, D.C. 1982, p. 29.
7. E.M. Hadley, "Industrial Organization by Caves and Uekusa, A review essay", Japan Economic Studies Winter 1976-77, p. 76.
8. Such a strategy has, for instance been utilized in the footwear trade. See D.B. Yoffie, Power and Protectionism, Columbia University Press, 1983, p. 200.

9. The petrochemical and non-ferrous metal refining industries (e.g. aluminum smelting) have been particularly hard hit by higher energy costs and have begun contracting. R.J. Samuels, "The Industrial Destructuring of the Japanese Aluminum Industry," Pacific Affairs, Vol. 50, No. 3, Fall 1983; S. Sekiguchi, "Industrial Adjustment in East Asia's Resource - Poor Economics," World Economy, Vol. 6, No. 2, June 1983.
10. The small relative share of manufactures in Japanese imports has frequently been commented upon. See G. Saxonhouse, "Evolving Comparative Advantage and Japan's Imports Of Manufactures," in K. Yamamura, Policy and Trade Issues of the Japanese Economy, University of Washington Press, 1982; and G. Saxonhouse, "The Micro and Macro-economics of Foreign Sales to Japan," in W.R. Cline ed. Trade Policy in the 1980s, Institute for International Economics, MIT Press, 1983, esp. p. 266. See also Table 6.2 in Chapter 6.
11. World Development Report, 1984 (draft) Chapter 2. World Bank, Washington D.C. 1984. The effects of Japanese exports in the SITC 7 category (including cars and machinery) on European industries are described by G. Shepherd, "The Japanese Challenge to Western Europe's New Crisis Industries", The World Economy, Vol. 4, No. 4, December 1981, pp. 375-390.
12. Since most exports of the NIC's to the OECD countries compete against the products of domestic firms in the traditional sectors, the contraction of these sectors will be the key to future market penetration. But, traditional industries can only be allowed to decline if alternative job opportunities become available in other sectors.
13. The estimate for 1984 is based on (i) amortization payments of \$2.8 billion - \$3.0 billion, (ii) additions to reserves of \$0.7 billion; (iii) borrowing to finance exports equal to \$0.5 billion; (iv) current account deficit of \$1.0 billion; (v) errors and omissions of \$0.5 billion; and (vi) reduction in short-term debt of \$0.75 billion.
14. Information obtained from discussions with bankers. See also, Washington Post, "Japanese Lenders Bank on U.S.," March 2, 1984, p. D.9.
15. A historical analysis of this tendency - with some qualifications - is given in C.P. Kindelberger, "The Cyclical Pattern of Long-Term Lending," in M. Gersovitz et. al. eds. The Theory and Experience of Economic Development, Allen and Unwin, 1982, pp. 300-308.
16. Net US investment financed through foreign savings may now exceed 40% (1983).
17. The importance of high interest costs has been convincingly argued by Sjaastad. See L.A. Sjaastad, "International Debt Quagmire - To Whom Do We Owe It," World Economy, Vol. 6, No. 3, September 1983, pp. 306-310.
18. The term non-voluntary lending has been coined by the BIS. On the extent of reschedulings see IMF, Occasional Paper No. 23, International Capital Markets: Developments and Prospects, Washington, D.C. 1983

19. The relations between the Japanese authorities and commercial banks are described by J. Andrew Spindler, The Politics of International Credit, Brookings Institution, 1984, Chs. 5 and 6. For the reaction of Japanese banks to the recent debt crises and their proposed future lending strategy, see "The Singed Samurai," Far Eastern Economic Review, May 3, 1984.
20. M. Yoshitomi, "An Analysis of Current Account Surpluses in the Japanese Economy," in E.R. Fried and P.H. Trezise ed. op. cit. pp. 12-14. The high savings of Japanese households have sparked much empirical analysis. A useful source of information is the Economic Survey of Japan 1981-82, Economic Planning Agency, Japanese Government, Tokyo 1982, pp. 177-193.
21. See R. S. Ozaki, "U.S. - Japanese Economic Relations," Current History, November, 1983, pp. 358-9.
22. Investment in infrastructure has reduced the savings-investment gap and could lower it still further. See N. Gall, "The Rise and Decline of Industrial Japan," Commentary, October 1983, pp. 30-33.
23. Some of the factors explaining the decline in the marginal efficiency of capital and labour productivity are reviewed in R.C.O. Matthews, Introduction: A Summary View, in R.C.O. Matthew, ed. Slower Growth in the Western World, National Institute of Economic and Social Research, London, 1982, pp. 1-15.
24. N. McMullen, op cit, note 6, p. 97.

Chapter 2

1. An increase in the Japanese savings ratio during 1973-74 eased the adjustment to the oil shock. See Economic Survey of Japan 1981-82, op. cit. Note 22, Chapter 1, p. 177.
2. According to the ratchet theories of consumption behavior, patterns of spending respond with a lag to changes in income as people tend to maintain living standards. Hence a fall in incomes is likely to result initially in a decrease in savings. For a brief review see S. Yusuf and R. Kyle Peters, "Savings Behavior and Its Implications for Domestic Resource Mobilization: The Case of the Republic of Korea," World Bank Staff Working Paper No. 628, Washington, D.C. 1984.
3. The current account has contained a large negative errors and omissions component for the past 4 years. It was \$1.4 billion in 1982 and \$1.0 billion in 1983. So far it has been impossible to decompose it into capital and current balance components. It is possible however, that much of this may belong to the current balance.

4. Determinants of Inflation:

$$\begin{aligned} \text{WPI} = & -0.465 + 0.281 \text{ MP} + 0.236 \text{ MP}(-1) + 0.083 \text{ MP}(-2) + 0.184 \text{ XR} + 0.303 \text{ XR}(-1) + 0.130 \text{ XR}(-2) \\ & (2.01) \quad (4.55) \quad (3.96) \quad (1.37) \quad (2.36) \quad (3.88) \quad (1.63) \\ & + 0.146 \text{ WG}(-1) + 0.099 \text{ WG}(-2) \\ & (2.24) \quad (1.56) \end{aligned}$$

(t-statistics in parentheses)

Time period: Q1 1966 - Q3 1983 Adjusted R-squared = 0.492 DW Statistic = 1.911

WPI: inflation as measured by wholesale price index; MP growth in import price index;
XR: change in exchange rate; WG: growth in nominal wage index; (-N): n period lag.

5. Determinants of Real Money Demand

$$\text{MS} = 0.041 + 0.054 \text{ GDP} - 0.186 \text{ INFL} - 0.002 \text{ UMR} + 0.003 \text{ TDR} + 0.914 \text{ MS}(-1)$$

(0.28) (2.86) (2.95) (2.27) (1.20) (54.89)

(t-statistic in parentheses)

Time Period: Q1 1966-Q4 1983; Adjusted R-squared = 0.997;
Durbin-Watson (D.W.) statistics = 1.561

MS: log of money supply deflated by the WPI; GDP: log of real GDP;
INFL: log of annual inflation as measured by the WPI; UMR: interest rate in unofficial money markets; TDR: interest rates on 1 year time deposit rates; (-1) one period lag.

Analysis of Real Money Demand

- A. Elasticities of money demand:
- (i) Income elasticity = 0.63
 - (ii) Inflation elasticity = -2.16
 - (iii) UMR elasticity = 0.02
 - (iv) TDR elasticity = 0.04
- B. Summary: The demand for real money balances, as indicated by our results, is stable. Therefore, an increase in money supply in excess of demand may spill over into prices. The income elasticity of real money demand is significantly lower than one. This result is consistent with scale economies and the availability of alternative financial assets in the Korean economy. See Goldfield, S.M., "The Demand for Money Revisited", Brooking Papers on Economic Activity, No. 3: 1973, p. 583. The inflation elasticity is greater than one, suggesting the economy's susceptibility to self-generating inflationary spirals. The coefficient of adjustment is very low, 0.086; this is consistent with the observation that expectations adjust very slowly. OLS estimation has been used in this "Goldfeld-type" money demand equation. While the rate of inflation, the interest rate, and real income are not exogenous, "OLS remains a useful way of organizing an overview of the data pertinent to the question of whether the public's money demand function is stable." See Robert L. Hetzel, "Estimating Money Demand Functions", The Journal of Money, Credit, and Banking, Vol. 16, No. 2 (May 1984).
6. A review of the literature on productivity in service industries worldwide, which highlights the problems of measurement was recently conducted by Colin Clark. Although growth rates are now much lower, they once ranged as high as 2-3% p.a. C. Clark, "Productivity in the Service Industries," in H. Rao and P.C. Joshi eds. Reflections on Economic Development and Social Change, Allied Publishers, New Delhi, 1979. Data on the very low trend rates of increase in productivity of the Korean service industry can be found in Labor and Export-Led Industrialization: The Case of Korea, World Bank Report No. 4485-KO, Washington, D.C. September 1983, pp. 18-22.
7. Labor and Export-Led Development, op. cit., pp. 23-25.
8. Obtained from Yearbook of Migration Statistics, 1982, National Bureau of Statistics, EPB. The figures are based on registration data.
9. This phenomenon has been widely noted. See W. H. Banson and J. Myhrman, "Inflation in Open Economies," European Economic Review, Vol. 7, No. 1, 1976; A. Lindbeck, Inflation, Leuven University Press, 1980, p. 40; T. Nakamura, The Postwar Japanese Economy: Its Development and Structure, University of Tokyo Press 1981, pp. 117-121; and Y. Suzuki, "The Inflation Debate in Japan: A Historical Survey," Japanese Economic Studies, Fall 1982, p. 21.

10. "Five-Year Plan Revised to Spur Progress", Business Korea, February 1984, p. 28.
11. "Economics of Korea's Ambitions Nuclear Program Reassessed," Business Korea, April, 1984, p. 19.

Chapter 3

1. See T. Mizoguchi, Personal Savings and Consumption in Postwar Japan, Kinokuniya Bookstore Co., Tokyo 1970; T. Blumenthal, Saving in Postwar Japan, Harvard East Asian Monographs, Cambridge, Mass, 1970; T. Ishikawa and K. Ueda, "The Bonus Payment System and Japanese Personal Savings," in M. Aoki, The Economic Analysis of the Japanese Firm, North Holland, Amsterdam, 1984; and Yusuf and Peters, op. cit., Note 2, Chapter 2.
2. A. V. Que, "Financial System," in P. Hasan and D. C. Rao, eds. Korea. Johns Hopkins Press, 1979, pp. 383-4.
3. Individual's willingness to hold money balances during inflationary times subjects them to an "inflation tax" which approximates the decline in the real purchasing power of their money holdings. A part of this inflation tax accrues to the government since it is in a position to bid for resources by printing money - at zero cost - and thereby raising prices. There is a large literature on this topic and the measurement of the tax has been much refined. Two early articles remain the most accessible, however. See M. J. Bailey "The Welfare Cost of Inflationary Finance," Journal of Political Economy, Vol. 64, 1956, pp. 93-110; and R. A. Mundell, "Growth, Stability and Inflationary Finance," Journal of Political Economy, Vol. 73, April 1965.
4. Several theoretical and empirical studies have discussed the substitutability of household savings with those of other sectors. See P.A. David and J. Scadding, "Private Savings: Ultra-nationality, Aggregation and Denisons Law," Journal of Political Economy, Vol. 82, March/April, 1974, pp. 225-49.
5. The size of intersectoral resource transfers is an important indicator of a country's financial superstructure. The larger the sectoral financial surpluses and deficits, that is, the excess of savings over investment in each individual sector, the larger the financial superstructure is in comparison to the infrastructure of national product. The absolute sum of these surpluses and deficits as a ratio to GNP, the net financial flow ratio, can be used as indicator of financial sector maturity. See Raymond Goldsmith, The Financial Development of India, Japan, and the United States, Yale University Press, 1983, pp. 32-33.
6. A positive relationship between interest rates and savings has been detected by R. McKinnon, Money and Capital in Economic Development, Brookings Institution, Washington, D.C., 1973; M. Fry, "Money and Capital or Financial Deepening in Economic Development," Journal of Money, Credit and Banking, Vol. 10, November 1978; C. Wright, "Saving and the Rate of Interest," in A.C. Harberger and M J. Bailey, The Taxation of Income from Capital, Brookings Institution Washington, D.C. 1969; and Yusuf and Peters, op. cit. Note 2, Chapter 2. No such effect could be found in a recent cross-section study by Alberto Giovannini, "The Interest Elasticity of Savings in Developing Countries: The Existing Evidence," World Development, Vol. 11, No. 7, 1983. E. Sakakibara and R. A. Fieldman also

- note that "the total quantity of savings (in Japan) did not seem to be affected by the level of interest rates. "The Japanese Financial System in Comparative Perspective," Journal of Comparative Economics, Vol. 7, Nov. 1, 1983, p. 16.
7. IMF, Interest Rate Policies in Developing Countries, Occasional Paper, No. 22, Washington, D.C., October 1983, pp. 6-8 and 27-30.
 8. R. I. McKinnon and D. J. Mathieson, "How to Manage a Repressed Economy," Princeton Essays in International Finance, No. 145, Princeton University, Princeton, 1981.
 9. Han Seung Soo, "Street Scandals Uncurbed," Far Eastern Economic Review, October 6, 1983, p. 88.
 10. See McKinnon and Mathieson, op. cit., Note 8. Data for the twelve month period stretching from the first quarter of 1983 to the first quarter of 1984 shows of course a considerable slowing down in the growth of M2, but it also reveals a small increase in the ratio of time deposits to M2. This could be construed as evidence that financial savings, while growing less rapidly than in the past, are nevertheless expanding faster than the rate of M2.
 11. On January 21, 1984, deposit and lending rates were revised as shown in the table:

REVISED BANK INTEREST RATES
(per annum)

Description	Before	Now	Difference
Time deposits			
One year or longer	8.0%	9.0% (9.5)	1.0
Six months	7.6	6.0	-1.6
Three months	6.0	4.0	-2.0
Installments savings deposits			
Three years	8.0	9.0 (9.5)	1.0
Two years	8.0	9.0 (9.5)	1.0
One year	7.6	9.0 (9.5)	1.4
Savings deposits	8.0	6.0	-2.0
Household savings deposits	8.0	6.0	-2.0
Passbook deposits	1.8	1.0	-0.8
Mutual savings and installment deposits			
Five years	8.4	9.4	1.0
Four years	8.2	9.2	1.0
Three years	8.0	9.0	1.0
Two years	7.8	8.8	1.0
One year	7.6	8.6	1.0

*Figures in parentheses are of the provincial banks.

LENDING RATES

Description	Before	Now	Difference
Export financing loan	10.0	10.0	0
Commercial bill discount	10.0	10.0-10.5	0-0.5
Overdraft	10.0	10.0-10.5	0-0.5
Overdue bills	18.0	19.0	1.0

Source: Korea Herald, January 25, 1984, p. 1.

12. M. Friedman, "The Changing Character of Financial Markets," in M. Feldstein, The American Economy in Transition, NBER, University of Chicago Press, 1980, pp. 78-86; A.S. Carron, The Plight of Thrift Institutions, Brookings Institution, 1982, pp. 5-11; W.L. Silber, Selective Credit Policies: A Survey in I. Kaminous and J.M. O'Brien, eds. Studies in Selective Credit Policies, Federal Reserve Bank of Philadelphia, 1975.
13. A number of measures have been enacted, since the Law for Fostering Capital Markets in November 1968, to establish and strengthen the stock market and the bond market. In 1968, the corporate marginal tax rate was 35% for publicly held corporations and 45% for closed corporations. In 1969, the rates were changed to 25% and 45%, for publicly held and closed corporations, respectively; in 1972, 27% and 40%; and in 1983, 20% and 38%. Also, during this period, the Government gave favorable tax treatment to holders of bonds and securities. For instance, the dividend earnings of small stockholders with less than 3% of the stock outstanding were tax exempt; bond interest earnings were tax exempt, if the taxpayer held less than 10% of the total bonds outstanding. Also, the tax rate on dividend earnings of large stockholders (with more than 3% of the stock outstanding) was 5%, much lower than the 20% rate for closed corporation stockholders. Under the Public Corporation Inducement Law of December 1972, financially healthy corporations, remaining closed, had restrictions placed on their access to credit. Throughout the seventies, numerous government measures established special institutions to monitor the activities of these markets, to encourage public participation in these markets, and to bolster institutional investors. In fact, there is some evidence that trading on the behalf of the MOF or on its behest have prevented share prices from plunging even further.
14. E.F. Vogel, Japan as No. 1, Havard University Press, 1979, pp. 134-135; Factors favoring high leverage ratios in Japan are described by R.E. Caves and M. Uekusa, Industrial Organization in Japan, Brookings Institutions, 1976, pp. 37-41.
15. Information provided by the Korea Stock Exchange. See also "Rumor Riddled Stock Market Searches for Security," Business Korea, May, 1984, p. 19.

16. Sakakibara and Feldman, Note 6, op. cit. suggest that the structure of financial intermediation in Japan may be partly responsible for the high saving rates.
17. It has been reported that non-performing assets average 14% of commercial bank portfolios. Korea Herald, 1984.

CHAPTER 4

1. On the theory of intra-industry trade see P. Krugman, "Intra-industry Specialization and the gains from Trade," Journal of Political Economy, Vol. 89, October 1981, pp. 959-973; P. Krugman, "New Theories of Trade Among Industrial Countries," American Economic Review, Vol. 73, May 1983, pp. 343-347; some empirical information on trading magnitudes is given in J. H. Bergstrand, "The Scope, Growth and Causes of Intra-industry International Trade," Challenge, September 1982, pp. 45-61.
2. The emergence of the East Asian NICs as a force in international trade is described by R. Hofheinz and K. E. Calder, The Eastasia Edge, Basic Books, 1982.
3. J. Datta-Mitra, "Structure of Exports and Imports," in P. Hasan and D. C. Rao, eds. Korea, Johns Hopkins Press, Baltimore 1979; D.C. Rao, "The Pattern of Economic Growth 1961-76," in P. Hasan and D.C. Rao, op. cit.; and A. O. Krueger, The Developmental Role of the Foreign Sector and Aid, Council on East Asian Studies, Harvard University Press, Cambridge, Mass. 1979, Chapters 3-5.
4. W. Arthur Lewis, "The Slowing Down of the Engine of Growth," American Economic Review, Vol. 70, No. 4, September 1980.
5. Although geographical diversification of exports has been given priority by the NICs, the new markets are far less reliable than those of the OECD countries. As Diaz-Alejandro shows for Brazil, the loss of exports in recent years was in the new markets, exports to some of the industrial economies actually expanded in nominal terms. C. Diaz-Alejandro, "Some Aspects of 1982-83 Brazilian Payments Crisis," Brookings Papers on Economic Activity, No. 2, 1983, pp. 521-522.
6. Ingo Walter has noted in a review of the steel industry, that "politics threatens to replace economics as the main determinant of the structure of global production in the industry." I. Walter, "Structural Adjustment and Trade Policy in the International Steel Industry," in W.R. Cline, Trade Policy in the 1980s, op. cit., Chapter 1, Note 12 p. 513, the political economy of trade patterns is also discussed by R. Ballance and S. Sinclair, Collapse and Survival: Industry Strategies in a Changing World, Allen and Unwin, 1983 Chapter 8.
7. Much of this can be explained by the speed and extent of the US recovery vis-a-vis that of other OECD countries.
8. Grossman, op. cit. Chapter 1, Note. 3.
9. L. T. Wells, Jr., "International Trade; The Product Life Cycle Approach," in L.T. Wells, ed. The Product Life Cycle and International Trade, Graduate School of Business Administration, Harvard University, Boston, pp. 3-33; Trade in standardized, as against differentiated products, is analyzed by J. Dreze in the context of Belgium, see p. 23 in Wells. Also see S. Linder, An Essay on Trade and Transformation, Wiley, New York, 1961.

10. Nine Korean General Trading Companies, that are modelled after the Japanese SogoShosha, account for 52% of manufactured exports and have played an important role in the growth of trade. The strengths and weaknesses of these trading companies, both Japanese and Korean are described by Y. Tsurumi and R. R. Tsurumi, Sogoshosha, Institute for Research on Public Policy, Quebec, 1980; A.K. Young, The Sogoshosha: Japan's Multinational Trading Companies, Western Boulder, 1979; "Growing Role of General Trading Companies in Korea," Monthly Review, Korea Exchange Bank, September 1983, No. 9; "Merchandise Exports by GTC," Business Korea, Vol. 1, No. 6, December 1983, pp. 56-61.
11. R. Ballance and S. Sinclair, op. cit. Note 6, pp. 149-150; R. U. Ayres and S.M. Miller, "Robotic Realities: Near Term Prospects and Problems," Annals, Vol. 470, November 1983, pp. 28-55; J. Lawson, et. al, "Technology for the Factory of the Future," Annals, Vol. 470, November 1983, pp. 56-67; M. Eugene Merchant, "Flexible Manufacturing Systems: Robotics and Computer-Used Automation," Annals, Vol. 470, November 1983, pp. 123-135; "U.S. Factories Reach into the Future," New York Times, March 13, 1984, p. C.1.
12. W. Leontief, "Technological Advance Economic Growth and the Distribution of Income," Population and Development Review, Vol. 9, No. 3, September 1983.
13. "Government Steps in as Construction Crisis Looms," Business Korea, April 1984, pp. 31-32.
14. Korea: Shipping Projects, IFC, mimeo, p. 4.
15. "Tossing on A Sea of Red Ink," Business Korea, September 1983, p. 50.
16. The rationalization of shipping firms, as one step in alleviating pressure on the industry, has been recommended by the Korea Maritime and Port Administration, see "Rationalization is Under Discussion Among Shipowners," Korean Maritime News, No. 62, November 1, 1983, p. 2.
17. "World Shipping Industry Hit by Worst Slump in 50 Years," The Korean Times, December 6, 1983, p. 9.

CHAPTER 5

1. I. Yamazawa, "Renewal of the Textile Industry in Developed Countries and World Textile Trade," Hitotsubashi Journal of Economics, Vol. 24, No. 1. June 1983, p. 26; Economist (London) February 4, 1984.
2. D. Morawetz, "Why the Emperors New Clothes Are Not Made in Colombia," World Bank Staff Working Paper, No. 368, Washington, D.C. 1980, pp. 192, 205. M. J. Piore and C.F. Sabel, "Italian Small Business Development: Lessons for U.S. Industrial Policy," in J. Zysman and L. Tyson, American Industry in International Competition, Cornell University Press, 1983, pp. 415-416.
3. McMullen, op. cit. The Newly Industrializing Countries, p. 30.
4. S. Nehmer, "Comment on Wolf," in W.R. Cline ed. Trade Policy in the 1980s, op. cit. Chapter 1, Note 12, pp. 570-72.
5. On MFAs, M. Wolf, "Managed Trade in Practice: Implications of the Textile Agreements," in W. R. Cline ed. op. cit. Chapter 1, Note 12, pp. 455-482. In his comment on Wolf's paper Stanley Nehmer remarks even if the MFAs were somehow terminated "the alternative is not a free market. The alternative to the MFA is unilateral action by the importing countries."
6. See Yamazawa, op. cit. Note 1, p. 31.
7. McMullen; The Newly Industrializing Countries, op. cit., p. 33.
8. V. Cable and B. Baker, World Textile Trade and Production Trends, Special Report No. 152, Economist Intelligence Unit, London, 1983.
9. Yamazawa, op. cit., Note 1, p. 27; V. Cable and B. Baker, World Textile Trade and Production Trends, Special Report No. 152, Economist Intelligence Unit, London, 1983, pp- 29-33; B. Toyne et. al. The Global Textile Industry, Allen and Unwin, 1984, Ch. 3; F. Clairmonte and J. Cavanagh, The World in their webs; the dynamics of textile multinationals, ZED Press, London, 1981, pp. 223-241.
10. D. B. Yoffie, "Adjustment in the Footwear Industry, The Consequences of Orderly Marketing Agreements," in J. Zysman and L. Tyson eds. op. cit., Note 2, p. 325; C. Pratten and R. M. Dean, The Economics Of Large Scale Production in British Industry, Cambridge University Press, 1965, pp. 43-44; some of the technological advances that have occurred are described in Chu Peng Lim, "Manufacture of Leather Shoes and Bricks in Malaysia," in A.S. Bhalla ed. Technology and Employment in Industry, ILO, 1981, pp. 249-258. It now seems that the cutting and sewing of shoes may gradually be computerized, see "Can Computerization Save U.S. Shoemakers," Technology Review, April 1984, p. 79.
11. "Local Footwear Manufacturers On Warpath," Korea Herald, March 15, 1984, p. 5.

12. For instance, the US OMAs of the late seventies excluded rubber footwear and thereby created an important loophole. By adding rubber to the sole or making other minor alterations, Korean exporters were able to reclassify non-rubber footwear as rubber and maintain their sales. See D.B. Yoffie, Power and Protectionism, op. cit., Chapter 1, Note 8, p. 196.
13. The increase in footwear imports into the U.S. during 1983 has sparked demands for stronger measures to keep out footwear from abroad. A renewal of OMAs or the introduction of more stringent restrictions could result.
14. Walter, op. cit., Chapter 4, Note 5, pp. 509-510; New York Times, "Critical Shift for Japan's Steel", March 20, 1984, p. D.1.
15. In 1980, the import shares of the LDCs for the industry as a whole were 5.7%. See McMullen, op. cit., Chapter 1, Note 6, p. 37; on future prospects, Ballance and Sinclair make some interesting observations, op. cit., Chapter 4, Note 6, pp. 120-128.
16. Walter, op. cit., Chapter 4, Note 6, p. 497, and J. Aylen, Prospects for Steel, Lloyds Bank Review, April 1984, No. 152, pp. 13-30.
17. Walter, op. cit., p. 500; D.F. Barnet and Louis Schorsch, Steel: Upheaval in a Basic Industry, Ballinger, 1983, provide a detailed comparison of US and Japanese production costs.
18. M. Borrus, "The Politics of Competitive Erosion in the US Steel Industry," in J. Zysman and L. Tyson eds. op. cit., Note 2, pp. 64-76; Walter, op. cit., pp. 484-490.
19. Ballance and Sinclair, op. cit., p. 120.
20. Currently the 50 minimills operating in the U.S. account for between 15-18% of the output. J.R. Miller "Steel Minimills," Scientific American, May 1984, No. 5, pp. 33-39.
21. New York Times, "A Restructured Steel Industry," February 2, 1984, p. D.1.
22. New York Times, "Critical Shift for Japan's Steel," March 20, 1984, p. D.1.
23. New York Times, ibid, Note 21; and Financial World, October 31, 1983, p. 12.
24. Even Japan's steelmakers have begun petitioning the government to impose restraints on steel imports from Korea; New York Times, op. cit., Note 21.
25. "South Korea: Shipbuilding - The Basis for Economic Growth," Lloyd's Shipping Economist, April 1981, p. 11.
26. Quarterly EXIM Bulletin, The Export-Import Bank of Korea, Vol. 7, No. 2, p. 10.

27. "Japan, No. 1 Shipbuilder, Losing Ground Despite Rise in Orders Earlier this Year," The Wall Street Journal, Tuesday, November 1, 1983, p. 34.
28. "Korean Shipbuilding Sink or Sail," Business Korea, April, 1984, p. 30.
29. The only measure of productivity is an estimate by the Korea Institute of Industrial Economics and Technology (KIIET) which indicates that productivity in Korean heavy industry is 40% of that in Japan. See also, "Buzzing with Soaring Orders," Business Korea, June 1983, p. 28.
30. "Technology Flow from Japan: Breaking the Bottleneck," Business Korea, December 1983, p. 75.
31. An arrangement to set up an "information - exchange system" has been under discussions between Hyundai Heavy Industries and Daewoo Shipbuilding and Engineering Corporation." See Buzzing with Soaring," op. cit., p. 27.
32. M. Borrus, J.E. Millstein and J. Zysman, "Trade and Development in the Semi-conductor Industry," in Zysman and Tyson eds. op. cit., Note 2, pp. 188-199; C.H. Ferguson, "The Micro Electronics Industry in Distress," Technology Review, September 1983, pp. 24-37; "Another Leap into the 1980," Far Eastern Economic Review, Industrial Japan, December 5, 1980, pp. 72-74
33. Ballance and Sinclair, op. cit., Chapter 4, Note 6, pp. 131-132.
34. Recent research initiatives, by Korean firms are reviewed in "Koreans Establish a Toehold in Silicon Valley," Business Korea, March 1984, pp. 10-16. The problems which Korean companies might encounter are discussed by J.F. Roda, The Impact of Micro-electronics and Information Technology, UNESCO, 1982, pp. 40-44, 58-59.
35. D.E. Cole and L.T. Harbeck, "Evolving Automotive Technology, Joint - Japan Automotive Study," Working Paper Series No. 4, March 1982, University of Michigan.
36. "Detroit Innovation," New York Times, February 8, 1983, p. C1; "The All American Small Car is Fading", Business Week, March 12, 1984, p. 91.
37. Aside from the trade barriers, the costs of producing a new small car from scratch have began extremely high - as much as \$26 billion. See Business Week, op. cit., p. 88; S.W. Sinclair, Motorizing the Third World, Prospects to 1990, Economist Intelligence Unit, Special Report No. 131, 1982, London, p. 6.
38. "The New World Carmakers," Far Eastern Economic Review, April 5, 1984, p. 68.
39. "The New World Carmakers," op. cit. p. 72

40. The total costs of owning a car are a very important determinant of purchasing decisions. G. Bittlingmayer, The Market for Automobiles and the Future of the Auto Industry, Joint US-Japan Automotice Study, Working Paper Series 2, Univ. of Michigan, 1983.
41. See Note 37.
42. With GM support, Daewoo will construct a plant that has a capacity of 160,000-200,000, about half of which will be sold in the U.S.
43. This does not mean that the trade barriers will come down. Recently the BL/Honda jointly produced Acclaim has encountered difficulties in entering the Italian market, as it is being claimed that the car contains a sufficiently large number of Japanese parts for it to be subject to the quota regulating the import of Japanese cars. S. Sinclair, op. cit., Note 32, p. 8.

CHAPTER 6

1. On the Korean export strategy see, L.E. Westphal, "Review of E.S. Mason et al., The Economic and Social Modernization of the ROK", Economic Development and Cultural Change, Vol. 32, No. 1, October 1983, pp. 205-206.
 2. Okimoto et. al. conclude that the electronics industry of the future will see a "proliferating network of cross-licensing arrangements, second sourcing, joint production technological cooperation, inter firm transferability of certain technologies . . . etc." See D.I. Okimoto, T. Sugano, and F.B. Weinstein, Competitive Edge, Stanford University Press 1983, p. 231.
 3. "Striving for Two-Way Market Expansion, Business Korea, April 1983, pp. 53-55; "An Emotional Divide," Far Eastern Economic Review, April 19, 1984, pp. 58-61.
 4. On the factors determining share prices, see R.A. Brealey, An Introduction to Risk and Return from Common Stocks, MIT Press, Second ed. 1983, pp. 69-73; and W.E. Fruhan, Jr., "How Fast Should Your Company Grow," Harvard Business Review, January 1984, No. 1, pp. 184-93.
 5. This is what one can infer from the behavior of stock prices in recent years. See R.A. Brealey, An Introduction to Risk and Return from Common Stocks, 2nd ed. MIT, Press, 1983, Ch 4.
 6. The Ministry of Finance, in order to expand the "equity issuing" market and to grant access to this market for medium-sized companies, has enacted the following set of policies:
 - (i) to urge corporations in good standing to go public;
 - (ii) to ease listing requirements, by lowering the capital requirement from W 2.5 billion to W 500 million and by lowering the requirement on the amount of total shares outstanding from 40% to 20%;
 - (iii) to facilitate the ability of unlisted corporation to raise capital by issuing OTC stocks and convertible bonds;
 - (iv) to introduce an issues-at-market price policy rather than at par value;
 - (v) to change the dividend-to-capital policy to a dividend-to-net income policy.
- See, "Functional Expansion of the Capital Market," MOF, July 18, 1983.
7. Debt-Equity Ratios: Many observers have noted the apparently high debt-equity (net-worth) ratios in Korea. It is, of course, well known

that inflation can change the real value of both these terms. In the Korean context, the accelerated depreciation allowances are a more important factor, as observers have typically used the book value of capital in their net-worth measures rather than the real value. Income tax laws permit special depreciation provisions, which accelerate depreciation between 40% and 80%. Using a simple algebraic model and ignoring the effects of inflation, we can derive the following relationship between the steady state values of the book value of capital (K_{β}) to the real capital stock (K):

$$\frac{K_{\beta}}{K} = \frac{(1 - \beta \delta_{\beta})g}{g + \delta_{\beta} - \delta}$$

where g is the rate of gross investment to real capital; δ is the real depreciation rate; δ_{β} is the allowable depreciation rate; and β is the proportion of investment which can be depreciated in the year of the investment.

By this formula, the ratio of book value to real capital is positively related to the gross investment ratio and negatively related to allowable depreciation. Accelerated depreciation therefore leads to an understatement of capital and consequently an overstatement of the rate of return to capital (Annex 3, Tables 1.14 and 1.15 give an idea of the orders of magnitude involved). The case in which the real depreciation rate is 8% and allowable depreciation rate is 12%, or 50% accelerated depreciation, is shown below:

Book value of capital to real capital stock

Investment to real capital (g)	10	15	20	30
Investment to book capital (g_{β})	16	22	27	36
Book to real capital	0.62	0.69	0.73	0.83

Even with a 30% real (or 36% book-value) investment, the ratio of value to real capital is only 83%. Thus in a period of high and steady growth, with only 50% accelerated depreciation, the debt/equity ratio could be overstated by 20%; with 100% accelerated depreciation by as much as 50%. In the manufacturing sector the investment to book value ratio was approximately 26%, 17% and 21% in 1981, 1982 and 1983 respectively. Over such a period the steady state ratio of book value to real capital would change from 0.73 to 0.69 to 0.62 for the case depicted above. This fluctuation is much less than the fluctuation in the investment ratio. For a given level of acceleration in depreciation (say 40%) the fluctuation increases however with the level of real depreciation.

8. It is estimated that in the aggregate, corporate net worth would be more than twice reported levels if fully adjusted for inflation, and that, for all enterprises, debt/equity ratios are on the order of 60/40 rather than the 80/20 level reflected in the Bank of Korea and KDB enterprise balance sheet composites. While these estimates were crude, recent conversations with brokers and accountants have confirmed this diagnosis concerning the balance sheet accounting errors. In fact, the magnitude of this

accounting distortion may be understated; it would not be surprising if the true debt to equity ratio was 55/45 or even 50/50. In sum, I do not believe that Korean corporations in the aggregate are gravely overindebted. They are fairly heavily indebted, but, except for a few leveraged conglomerates, the problem is not so serious as to call for strong remedial measures.

Adjusting the income statement for comparable distortions is more complex. Partial revaluation of assets raises depreciation charges, but not as much as they should be raised, thus tending to overstate profits. On the other hand, Korean firms do not add to profits gains received from the devaluation of their debt in real terms due to inflation. This adjustment is important, since under high inflation, there is a large inflation premium in the nominal interest rate, which under Korean accounting principles, is expensed. In economic terms, this is not a real cost: it is a means whereby creditors are compensated for the devaluation of the real principal of their financial claims due to inflation. The firm must pay such high nominal interest, but benefits from inflation's depreciation of the real value of its debt. To reflect the real impact of inflation and nominal interest payments on corporate profits one must add the gain on the devaluation of a firm's debt to the income statement if one expenses the entire nominal interest payment. To be more precise, the firm earns nominal interest on its financial assets, which is recorded, and experiences a loss due to inflation on the real value of the principal of these assets. One must make comparable adjustments to the firm's financial assets, or, taken together, to the firm's "net monetary liabilities."

When inflation and nominal interest rates are high, this accounting deficiency results in large distortions; real economic profits are seriously undervalued due to high nominal interest charges. In fact companies which in reality are quite profitable may appear to be running losses. Furthermore, under highly inflationary conditions this distortion, which tends to depress profits, would be far greater than the overstatement of profits that results from underdepreciating due to a failure to fully revalue assets. For Korean companies, these several distortions could tend to understate profits in periods of high inflation - 20% or more - and overstate profits in periods of low inflation - less than 10%. Contrary to reported corporate income statistics, profits were probably quite substantial in the period 1979-81; on the other hand, they may have been overstated in 1982.

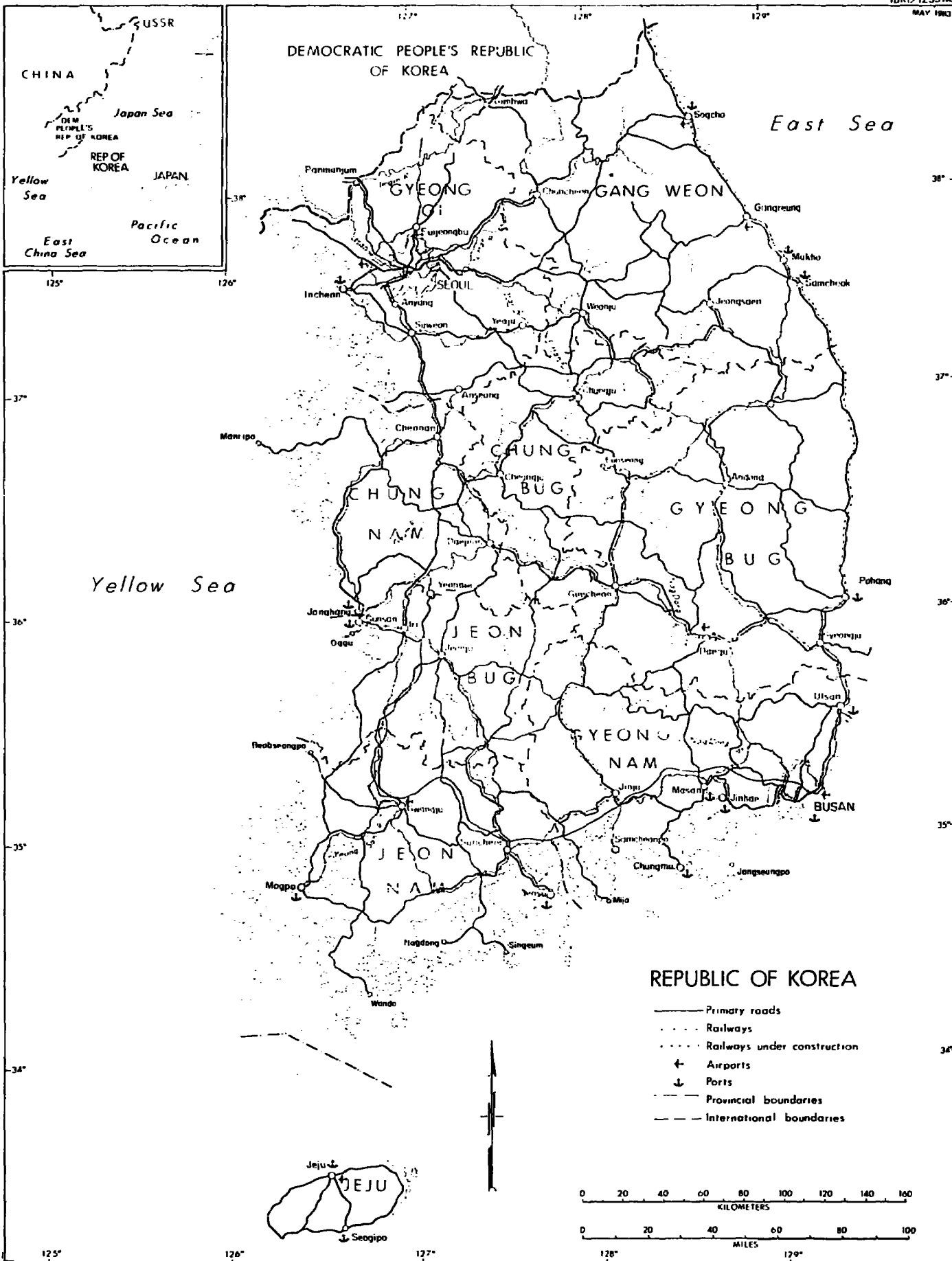
In F. Veneroso, Korea Financial Structure, World Bank, mimeo, October 1983. Japanese firms also have fairly high debt equity for similar reasons. Aoki lists four: (1) the high proportion of accounts payable; (2) absence of inflation accounting; (3) the practice of compensating balances; and (4) the accumulation of nontaxable reserves by firms and their inclusion in the long-term debt. M. Aoki, Aspects of the Japanese Firm in M. Aoki ed. The Economic Analysis of the Japanese Firm, North Holland, 1984, pp. 16-21. See also R. Clark, The Japanese Company, Yale University Press, 1979, pp. 77-80. While the above factors would result in the debt equity ratio being overstated, over the past year some

countervailing forces have also been at work that might encourage Korean companies to exaggerate their equity base: first a lower d/e ratio has a positive effect on share prices; and second, the Government restricts corporate borrowing from commercial banks unless the companies can satisfy certain debt/equity criteria.

9. The Government's proposal is to liberalize rates once the gap between controlled and market rates is eliminated as market rates decline with the dampening of inflationary expectations and banks are allowed to charge larger risk differentials on their lending rates. This closure, while possible in the longer run, is not imminent as the Government's tight monetary policy will maintain upward pressure on market rates, possibly for the balance of 1984.
10. See Chapter 4, footnote 10.
11. R.E. Caves, et. al. Competition in the Open Economy, Harvard University Press, Cambridge, Massachusetts, 1980, p. 381.
12. The advantages of subcontracting as apparent from the Japanese experience are spelled out by D. Friedman, "Beyond the Age of Ford; The Strategic Basis of the Japanese Success in Automobiles," in J. Zysman and L. Tyson eds. American Industry in International Competition, op. cit., pp. 371-375; R.E. Caves and M. Uekusa, Industrial Organization in Japan, Brookings Institution, 1976, pp. 112-114.
13. "Science in Japan," Nature, Vol. 305, September 29, 1983, p. 361.
14. op. cit., p. 356.
15. Competition in the Open Economy, op. cit.. Note 11, p. 172.
16. R.E. Caves, H. Crookel and J. Peter Killing, "The Imperfect Market for Technology Licenses," Oxford Bulletin of Economics and Statistics, Vol. 45, No. 3, August, 1983, pp. 249-267; C.C. Coughlin, "The Relationship between Foreign Ownership and Technology Transfer," Journal of Comparative Economics, Vol. 7, No. 4, December, 1983, p. 407.
17. Admittedly this cannot be generalized too far. See, however, P.B. Tigre, Technology and Competition in the Brazilian Computer Industry, Frances Pinter, 1983, Ch. 11.
18. D.W. Layton, "Japan and the Introduction of Foreign Technology: A Blueprint for Less Developed Countries?", Stanford Journal of International Law, Vol. 18, Spring 1982, pp. 171-214.
19. R. B. Cohen, "The Prospects for Trade and Protectionism in the Auto Industry," in W. R. Cline, ed. Trade Policy in the 1980s, MIT Press, 1983, p. 547.
20. Many final services involve substantial inputs of manufactured goods. See J. Kravis, A.W. Heston and R. Summers, The Share of Services in Economic

Growth, in F. Gerard Adams and B.G. Hickman eds. Global Econometrics, MIT Press, 1983, pp. 197-98.

21. See for instance, A.P. Thirlwall, "A Plain Man's Guide to Kaldor's Growth Laws," Journal of Post-Keynesian Economics, Vol. V, No. 3, Spring 1983, pp. 345-358.
22. The relationship between business fluctuations and investment is discussed by B.G. Malkiel, The Capital Formation Problem in the U.S. Journal of Finance, Vol. 34, May 1979, No. 2., pp. 296-298.
23. An interesting analysis of this phenomenon is provided by T.J. Courchene, Towards a Protected Society: the Politicisation of Economic Life, Canadian Journal of Economics, Vol. 13, No. 4, November 1980.
24. M. Olson, The Political Economy of Comparative Growth Rates, in D.C. Mueller, The Political Economy of Growth, Yale University Press, 1983, pp. 7-52. The relativities appear to have loosened in the past two years under the Government's encouragement. In 1983 for instance, manufacturing wages rose an average of 12.2%, while those in service industries increased by about 8%. The trend has been maintained in the base pay adjustment negotiated in the first quarter of 1984. Manufacturing wages increased 6%, those of service industries by 2.3%
25. L. Johansen, The Bargaining Society and the Inefficiency of Bargaining, Kyklos, Vol. 32, Fasc. 3, 1979, pp. 497-522.
26. The air is thick with explanations and counter explanations about what is happening to productivity in the West. For a sample of the views, see the papers by A. Lindbeck, H. Giersch and F. Wolter and E.F. Denison in Economic Journal, Vol. 93, March 1983, pp. 13-77; "Thurow's Third Way," Economist (London), January 23, 1982, pp. 23-26; "Productivity Problems Trouble Economy," Science, Vol. 206, October 19, 1979, pp. 310-11; "Productivity Study Implies Dim Future," New York Times, May 31, 1983, pp. D1-D4.
27. K. Newland, Productivity: The New Economic Context, Worldwatch Paper, No. 49, June, 1982, pp. 28-34. The microelectronic revolution is likely to lead to a loss of jobs in wholesaling, retailing and secretarial services.



DEMOCRATIC PEOPLE'S REPUBLIC
OF KOREA

East Sea

USSR
CHINA
Japan Sea
Yellow Sea
Pacific Ocean
East China Sea
JAPAN
REP OF KOREA
DEM. PEOPLE'S REP. OF KOREA

Yellow Sea

REPUBLIC OF KOREA

- Primary roads
- · · Railways
- · · · Railways under construction
- + Airports
- ↓ Ports
- - - Provincial boundaries
- - - International boundaries

