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KOREA'S MACROECONOMIC PROSPECTS
AND MAJOR POLICY ISSUES FOR THE NEXT DECADE

by

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Abstract

The purpose of this paper is to evaluate Korea's macroeconomic prospects and major policy issues for the next decade. After reviewing the initial conditions, we examine growth strategies, and prospects for growth. Then we discuss external borrowing options and the role of monetary and fiscal policy in the next decade.

From the review of Korea's macroeconomic prospects for the next decade we conclude that although the external environment will not be as favorable as in the 1983-86 period, still the Korean economy will be resilient enough to achieve a 6-7 percent annual growth rate for the next decade. Areas where new policy actions will be required are in the management of monetary policy and the provision of social welfare. Although we see some increase in the protectionist threat against Korea's exports, we think that the pressures for higher consumption and investment and the less favorable external environment will result in smaller trade surpluses in the years ahead.

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1. INTRODUCTION

By all accounts, Korea seems to be facing a new macroeconomic horizon since 1986. For four consecutive years, 1983-86, the annual inflation rate, as measured by the consumer price index, remained at a 2-3 percent level in spite of a fairly rapid average GNP growth of over 9.9 percent during this period. However, what marks a new turn in the Korean macroeconomic evolution is the sizable surplus of \$4.6 billion dollars in the external current account and a reduction in its gross foreign debt in 1986.

One may wonder whether these developments are transitory or permanent and how policymakers should adjust their policy directions in this new environment. This paper tries to evaluate future prospects of the Korean economy and address the major macroeconomic issues which are expected to emerge in the coming decade or so. In the following section, the major macroeconomic developments in recent years are analyzed, as a basis for judging their future evolution. Growth strategies and potential are discussed in Section III in light of the importance of Korea's export performance and the new export pessimism. Section IV addresses issues related to Korea's debt management in the context of continuing current account surplus. Related macroeconomic issues including the exchange rate, monetary management and fiscal policies are discussed in Section V, followed by conclusions in Section VI.

2. INITIAL CONDITIONS AND PROSPECTS

As briefly stated at the outset, the Korean economy showed unprecedented macroeconomic performance recently. In 1986, the export-fueled high rate of growth of over 12.5 percent produced a near record low unemployment rate of 3.8 percent, first substantial current account surplus

(4.9 percent of GNP) in its modern history and a record high domestic savings ratio of over 32.8 percent. Yet, these achievements were set without any accompanying signs of a resurgence of inflation.

There is no denying that these results owe very much to the favorable external environment: improved terms of trade, low international interest rates and the appreciation of the Japanese yen leading to the considerable depreciation of the Korean won on a real effective basis. However, much credit should also be given to appropriate macroeconomic policies and the strenuous structural adjustment efforts on the part of Korea since the end of the 1970s (see Corbo and Nam, 1987a). While the relative importance of these factors in bringing about the macroeconomic evolution may be difficult to evaluate accurately, the initial conditions of the economy should be very critical in projecting the future path of the economy as well as the likely policy directions. To the extent that the macroeconomic improvement is due to the effectiveness of structural adjustment efforts and external developments are not seen to deteriorate in the near future, one can be quite optimistic that these positive trends will continue.

(a) Inflation

The remarkable price stability of the last four years or so must have made great strides in bringing down inflationary expectations, which is a critical determinant of the future inflation rate. Table 1 shows the recent evolution of inflation and its main determinants. From this table we observe that the sharp deceleration of inflation during 1982-86 was associated with a sharp reduction in the rate of growth of import cost and a slowdown in the rate of growth of agricultural prices. Indeed in Corbo and Nam (1987b) it is found that these were the two main factors accounting for the successful deceleration of inflation. In the stabilization efforts since 1979, incomes

Table 1. Trends of Inflation and Major Costs (annual rate of change, %)

	1966-73	1974-75	1976-78	1979-81	1982-85	1986
Inflation						
Consumer prices	11.1	24.8	13.3	22.7	3.8	2.3
GDP deflator	13.9	27.7	19.4	20.5	4.5	2.4
Unit Labor Cost *						
	11.0	30.1	26.8	26.0	7.6	0.8
(Nominal wages)	(21.4) ⁺	(30.7)	(34.2)	(24.1)	(11.2)	(8.2)
(Productivity)	(9.3)	(0.4)	(5.8)	(-1.5)	(3.3)	(7.3)
Import Cost						
	9.1	39.4	1.9	29.7	2.2	-6.1
(Unit import price)	(3.8)	(26.5)	(1.9)	(15.7)	(-3.8)	(-7.3)
(Exchange rate)	(5.2)	(10.2)	(0.0)	(12.1)	(6.3)	(1.3)
Agricultural Prices (WPI)						
	13.7	34.7	25.9	21.0	2.4	-0.2
Financial Cost (% per Annum) ‡						
	22.8	15.5	16.7	20.4	10.6	10.0

Sources: Economic Planning Board and Bank of Korea

* Non-agriculture

+ Manufacturing wages

‡ General lending rate of deposit money banks to prime borrowers.

policy has been an important component of the program. This included government jawboning efforts for wage stability and setting the government purchase prices of major grains as well as interest rates in line with the target rate of inflation.

Although this price stability might have involved initially some repressed elements, they seem to have disappeared in the following years. In case the currently weak labor unions in Korea gain their strength in step with

the democratization process of the society, if upward pressure on wages get supported by accommodating monetary policy, there may be some possibility of wage push inflation. However, Korea's economy has enough room to continue accommodating non-inflationary increases in wages as long as Korea's labor productivity growth remains high.

(b) Balance of Payments

The future evolution of the Korean balance of payments seems to be a little more uncertain. It will mainly depend on the external environment, domestic macroeconomic policies and how successfully Korean businesses break through export difficulties. Ever rising protectionist threats and other pressures of the developed countries, particularly against the newly industrializing countries with current account surpluses, are likely to restrain the increase in the size of the surplus fairly moderate. Korea is already under great pressure to appreciate its currency and faces many export restrictions in spite of its efforts to reduce its import barriers.

Table 2 shows that there was a \$10 billion improvement in the annual current account balance between 1980 and 1986. A decomposition analysis, based on a model presented in note 1 at the end of the paper, indicates that about 65 percent of this improvement was due to favourable developments in Korea's terms of trade and in international interest rates, suggesting that the current account surplus is yet to be firmly established. In the absence of these favourable external developments, Korea would have recorded a current account deficit of \$1.9 billion in 1986 (instead of the \$4.6 billion surplus) and a \$13 billion addition to the actual net external debt of \$32.5 billion at the end of 1986. Although the analysis shows that the trade balance would have improved more than \$4 billion during the six year period even without the

Table 2. Current Account Balance and Net External Debt: Counterfactual Simulation Results Assuming Unchanged External Environment Since 1980 (billion U.S. dollars) *

	1980	1981	1982	1983	1984	1985	1986
Current Account Balance		-5.32	-4.65	-2.65	-1.61	-1.37	-0.89
4.62 (Counterfactual)		(-3.84)	(-3.16)	(-3.19)	(-3.55)	(-3.84)	(-1.90)
Trade Balance (Counterfactual)	-4.38	-3.63 (-3.12)	-2.59 (-3.10)	-1.76 (-2.47)	-1.04 (-2.49)	-0.02 (-1.58)	4.21 (-0.34)
Investment Income (Counterfactual)	-1.98	-2.84 (-2.54)	-3.04 (-3.04)	-2.69 (-3.56)	-3.28 (-4.01)	-3.18 (-4.57)	-3.21 (-5.18)
Other Services and Transfers	1.05	1.82	2.98	2.85	2.94	3.32	3.62
Net External Debt (Counterfactual)	19.5	24.3 (23.5)	28.3 (28.0)	31.1 (32.4)	32.0 (35.5)	35.6 (42.0)	32.5 (45.4)
Terms of Trade (1980=100)	100.0	97.9	102.2	103.1	105.3	105.9	115.4
Interest Rate on Debt (%) ⁺	11.8	13.0	11.6	9.1	10.4	9.4	9.3

Source: Bank of Korea

* The terms of trade and interest rate on net external debt are assumed to have remained at the 1980 levels throughout 1981-86. For details, see Note 1.

+ Ratio of net interest payment to mid-year (average of two year-end values) net external debt.

terms of trade gain, more than half of the improvement occurred during 1985-86, which may mainly be attributed to the depreciation of the won on a real effective basis.

The sizable deficit in investment income (mostly net interest payment on external debt) is anticipated to decrease gradually as a result of anticipated decreases in the external debt resulting from current account surplus and the absence of a major rise in international interest rates. In conclusion, while Korea's current account surplus is expected to continue in the absence of major external shocks, it will be constrained by the proportionally stronger pressures and barriers of various kinds from the developed countries as well as the need for investment and consumption growth. The balance is also very vulnerable to other external events, so that any favourable structural or fundamental trend of the external balance will be easily swamped by, say, a relatively minor aggravation of the terms of trade.

(c) Employment and Growth

The high economic growth in 1986 seems to have disguised the underlying employment problem. As Table 3 shows, recent years witnessed a sharp drop in the aggregate employment elasticity with respect to value added: it was only 0.22 during 1982-86, only about half the level recorded during 1966-81. Mainly responsible for this was a dramatic reduction in agricultural employment with the progress in farm mechanization. This situation is likely to continue for some time, since agricultural labor still accounts for almost a quarter of the total employment. The evolving industrial and trade structure, industrial organization and relative factor price movement should also have some bearing on the low elasticity of labor demand.

Although new labor absorption during the first half of the 1980s was minimal, it was accompanied by a steady decline in the labor market participation ratio and thus the unemployment rate remained relatively low. The declining participation ratio seems to have been associated with a sharp

Table 3: Economic Growth and Employment

	1966-73	1974-81	1982-85
Employment Growth (%)	3.9	2.9	1.9
Agriculture	1.8	-1.8	-5.3
Mining & Manufacturing	10.0	6.4	6.0
Services	5.0	6.6	4.6
Labor Productivity Growth (%)	5.9	4.1	6.1
Agriculture	1.5	4.2	9.7
Mining & Manufacturing	8.5	5.5	3.9
Services	6.4	0.2	4.5
Employment Elasticity	0.39	0.41	0.22
Mining & Manufacturing	0.52	0.52	0.59
Services	0.42	0.98	0.49
Growth of Labor Force (%)	3.4	3.0	1.8
Labor Market Participation Ratio (%)	55.9	57.3	55.3
Unemployment Rate (%)	5.1	4.1	4.0

Sources: Economic Planning Board and Bank of Korea.

increase in the college entrance quota in 1980 as well as the unfavorable labor market situation after the second oil price shock (see Castañeda and Park 1987). For the next ten years, Korea's population in the productive age group (15-64 years) is projected to grow at an annual rate of 1.7 percent (see Korea Development Institute 1986). In addition, there seems to be substantial room for more female labor market participation, as their child-rearing burdens become lighter and their education level and social status are enhanced (see Grootcart 1987). Assuming that the overall participation ratio,

which already reversed its downward trend after reaching 53.9 percent in 1984, is to rise to 57.3 percent during the next ten years (the average ratio for 1974-81), the labor force will grow at 2.3 percent annually. Should the currently low aggregate employment elasticity be continued, even a high economic growth of 7-8 percent would produce additional unemployment. Therefore, Korean policymakers, in addition to aiming at maintaining an adequate growth rate, will have to pay more attention to the employment issue.

3. GROWTH STRATEGIES AND POTENTIAL

(a) Sources of Growth

Given that Korea will continue to strive for reasonably high growth, what is its growth potential and how will it be affected by alternative growth strategies? A Denison type of sources of growth analysis on the supply side was provided by the Korea Development Institute (see Korea Development Institute 1986). The analysis, as presented in Table 4, indicates that the contribution of labor will drop substantially with the slower growth of labor force coupled with the reduced number of hours worked. Nevertheless, the potential growth rate exceeds 7 percent a year throughout the 1990s. If the nation's increased domestic savings capacity is effectively translated into productive capital formation, the contribution of capital stock to future economic growth is projected to be no smaller than that of the last ten years or so.

A more important source of growth, whose contribution will be increasing, is expected to be productivity improvement. This source of growth has been less than fully realized, due mainly to the underutilization of investments in some heavy and chemical industries following the second oil

Table 4. Supply Sources of Economic Growth (% of contribution)

	Actual Growth	Potential Growth	
	1972-83	1984-90	1991-2000
Labor (Employment)	3.2 (1.9)	2.2 (1.6)	1.3 (0.9)
Capital	2.0	2.1	2.3
Productivity	3.0	3.6	3.6
(Economies of Scale)	(1.6)	(1.5)	(1.5)
(Technological Progress)	(0.6)	(1.7)	(2.0)
National Income Growth	8.2	7.9	7.2

Source: Korea Development Institute, Korea Year 2000: Prospects and Issues for Long Term Development, 1986.

Table 5. Demand Sources of GNP Growth (%)

	1966-73	1974-78	1979-86
GNP Growth	10.0	10.2	5.9
Absorption	10.3	10.5	4.7
Commodity Exports	37.4	20.1	10.3
Commodity Imports	27.0	17.6	6.1
Services Trade (% of GNP)	2.5	0.4	-0.4
Net Contribution to GNP Growth ⁺			
Absorption	7.8	7.8	3.3
Commodity Exports	1.9	2.4	2.4
Services Trade	0.4	0.0	0.1

Sources: Bank of Korea and authors' estimates.

* Includes statistical discrepancies

+ For the calculation of the sectoral contribution to GNP growth, refer to Note 2 at the end of the paper.

price shock. A much stronger and broader technological base as well as the continuous government efforts for more efficient resource allocation seem to justify the projection of higher productivity growth. Policy efforts toward this direction include on-going industrial restructuring, attempts to limit industrial concentration, and the realignment of the industrial incentive system in such a way as to minimize government interferences (see Lee, Urata and Choi 1987).

On the demand side, Korea's phenomenal growth during the last quarter century was no doubt propelled by export expansion. The GNP share of exports of goods and services rose from 8.5 percent in 1965 to as high as 41% in 1986. Even though the export growth has slowed down sharply since the late 1970s, it still was more than twice as fast as the growth of absorption. Table 5 shows net contributions to GNP growth by absorption, commodity exports (after deducting the 'required' commodity imports) and services trade. This growth decomposition grossly understates the contribution of exports because it attributes any export-induced investment and consumption growth to the contribution of absorption. Still, the calculation indicates that, in spite of deceleration of export growth, the relative growth contribution of commodity exports has become larger because of its growing share in GNP. These calculations reinforce the viewpoint that Korea's future economic growth will depend primarily on how well its exports fare.

Services trade showed a net deficit during 1980-85 due to the growing interest payment burden on external debt together with the dwindling overseas construction projects in the Middle East. As the overseas construction activity is no longer significant for the economy and net external debt is expected to decline gradually, this sector is likely to turn to a positive contributor as it did actually in 1986.

(b) Export Pessimism

Growth potential on the supply side cannot be fully exploited when the export environment is significantly stressed. In recent years, Korean exporters have been facing increasing protectionist barriers against their products. Not only are the actual barriers critically binding but retaliatory threats also seem so real as to greatly increase uncertainty in export activity. The resurgence of strong protectionist sentiments in the United States should be particularly worrisome for Koreans. Korea has emerged as one of the largest bilateral trade deficit countries for the United States, a market to which 40 percent of the Korean exports were shipped in 1986. Korean exports are not well diversified by either product or producer, which makes them very visible in the overseas markets and vulnerable to protectionist action. Furthermore, being ill-advisedly perceived as a 'second Japan', Korea seems destined to possibly fall victim to the U.S.-Japan trade war.

Surely, Korean entrepreneurs will continue to make every effort to get around the protective measures while trying to diversify their export markets and products. However, in light of the vigilance of protectionists abroad as well as Korea's emerging export structure, Korea may find it difficult to avoid the brunt of the protectionist action. Recent export performance already seems to provide an evident ground for export pessimism. As shown in Table 6, for two decades, until 1983, Korean exports in real terms grew 4-5 times as fast as the imports of the industrial countries on the average, or 7-8 times as fast as the GDP of these nations. These impressively high export elasticities suddenly dropped drastically after 1983 in the absence of any major shift in domestic policies affecting export incentives. During 1984-85, Korean commodity export growth rate was only 1.15 and 2.55 times the import and GDP growth rates of the industrial countries,

Table 6. Trends of Korea's Export Elasticities (real growth, %)

	1966-73	1974-80	1981-85	(1984-85)
(A) World Imports	9.1	4.0	2.8	(6.5)
(B) Imports of Industrial Countries	9.6	2.9	3.5	(8.8)
(C) GDP of Industrial Countries	4.5	2.3	2.4	(4.0)
(D) Korean Exports	37.1	15.5	12.1	(10.2)
(E) Elasticities (D/B)	3.9	5.3	3.5	(1.15)
(D/C)	8.2	6.8	5.0	(2.55)

Source: IMF, International Financial Statistics, Year Book 1986.

respectively. Although Korean exports have recovered strongly since 1986, it seems to be due mainly to the effective exchange rate depreciation since 1985.

In the coming decade when the annual growth and import growth of the industrial countries is expected to average at 2.5-3.0 percent and 4-5 percent, respectively, Korea's export growth in real terms is projected to range 6-8 percent under the assumption of 'neutral' exchange rate management.

(c) Alternative Growth Strategies and Growth Prospects

Given the prospect that export growth will further slow down due to growing protection against Korean exports and weak global economic growth, are there grounds for modification of the export-oriented growth strategy? We think that if export activities become less attractive as a result of uncertainty about access to markets, then import competing and non-tradable producing activities will automatically become more profitable and this will attract more resources. The more seriously protectionist measures are binding

on exports, the more true this will be. There is no point in providing a further anti-export bias by implementing import substitution strategy. As observed by many, however, countries with an export-promoting strategy generally grew faster than other countries in the last several decades. This was true even for the periods after the oil price shocks when the world trade volume actually contracted (Balassa 1984, Mitra 1987, Sachs 1985).

Import substitution strategy is commonly associated with a wide dispersion of protection levels even among exports or import-competing activities, overvaluation of the currency, exchange controls and unproductive profit or rent-seeking activities (see Bhagwati 1986). The result is inefficient allocation and waste of resources. Furthermore, economies of scale and dynamic gain from competition may also be better realized under an export promotion strategy. Korea, therefore, will be ill-advised to depart from its export-promoting strategy in any substantial way even under an unfavourable trade atmosphere.

Still another policy effort of mitigating the growth impact of slower export expansion may be boosting domestic demand through monetary and fiscal stimuli. Actually, surplus countries are pressed hard to adopt this policy as a way of correcting the payment imbalances. Assuming that Korea will continue to have surplus in the current account even with slower export growth, there should be some room for stimulatory policies. However, there is a clear limit to such expansionary policies as it could bring back inflation just when Korea is benefitting from price stability. Furthermore, Korea tried this approach in the early 1980s and ended up with high inflation (see Corbo and Nam 1987a).

Though there may be some ways of easing the inflationary pressure of a stimulating policy by limiting the monetary expansion and reducing imperfections in certain factor markets and other emerging bottlenecks on the

supply side, monetary and fiscal policies are better aimed at short-run economic stabilization. An explicitly expansionary policy may be best reserved for periods of unexpected temporal shocks. Otherwise, the inflationary expectation of economic agents will undermine the policy effect even in the short run. This risk is likely to be high for Korea which had suffered from chronic inflation until only several years ago.

In conclusion, it does not seem wise for Korea to make a major shift from the current growth strategy. Then, how fast is the Korean economy expected to grow? Most likely, Korea will keep a modest surplus in its current account, which implies that exports and imports in real terms will grow at roughly the same rate in the absence of major changes in the terms of trade. Given that the domestic savings ratio is already fairly high, most probably will stay at its present level, thus consumption growth will be almost as fast as income growth in the future. Finally, private and public investment demand for non-tradables such as housing and social infrastructure is potentially very high, while tradables-related investment expansion is likely to slow down somewhat reflecting export difficulties. Overall, the Korean economy is expected to grow at an annual rate of 6-7 percent during the next decade depending on the export environment as well as domestic economic policies.

4. KOREA'S DEBT MANAGEMENT

In the last twenty years Korea's foreign debt has increased substantially. The increase in the debt has two main determinants. First, the secular growth was mostly determined by a deliberate government policy aimed at enhancing the productive capacity of export oriented industries first and heavy and chemical industries later on. The gap between investment and

savings was always financed through external borrowing. Second on top of this long term trend, cyclical growth in foreign debt followed the first and second oil shock with total debt almost doubling between 1973 and 1975 and between 1978 and 1980 (see Table 7). To the latter increase contributed the oil shock, the increase in international interest rates and the slowdown of the international economy.

As a result, contrary to other highly indebted countries, in Korea the growth of external debt has been closely related to cumulative deficits in the current account and the accumulation of foreign reserves; capital flight has been minor (see Dornbusch and Park 1987). The growth in foreign reserves has followed the needs arising from the increase in trade flows.

The increase in debt that followed the second oil shock prompted Korea to undertake an ambitious adjustment program that contributed to a slowdown in the deterioration of most debt indicators (see Table 7, lines 2, 3 and 4). The turnaround also benefitted from an improvement in the external environment with the post 1982 U.S. recovery, the decrease in international interest rates, and some improvement in its terms of trade. Moreover, the change in macroeconomic policies resulted in a real exchange rate that improved the competitiveness of Korea's tradable sector and contributed also to the successful elimination of the current account deficit. In the years ahead the challenge for Korea is to keep the growth momentum with a manageable situation with respect to the external debt.

For a country like Korea where one of the main objectives of economic policies is to achieve high growth with efficient production of tradeables, there will be abundant profitable investment opportunities--for more that can be financed with even the very high level of national savings. In this case, foreign borrowing would be a very efficient welfare enhancing activity. It

Table 7. Korea's External Debt

	1965	1970	1973	1975	1978	1980	1982	1985
1. Total Gross Foreign Debt (billions of US\$, end of year)	0.18	2.25	4.26	8.46	14.87	27.2	37.1	46.8
2. Total Foreign Debt/GNP (%)	5.9	28.7	31.6	40.6	28.6	44.6	52.4	56.3
3. Debt Service/GNP (%)	0.5	3.3	4.5	4.1	4.6	6.8	8.2	8.5
4. Debt Service/Export* (%)	5.2	18.7	10.3	14.5	13.9	18.5	20.6	21.4
5. Current Account Deficit/GNP (%)	-0.3	7.1	2.3	9.0	2.2	8.7	3.7	1.1

* Export includes net invisible receipts.

appears that for non-economic reasons the external debt of Korea is considered too high to continue increasing it. If this is the case, then it is desirable to maintain balance in the current account on a present value basis. In the short run, current account surpluses could be used to accumulate foreign reserves and to undertake direct foreign investment to face unexpected external shocks. However, for the next decade Korea most probably will follow macroeconomic policies geared to achieve a balanced current account or a small surplus. The control of the emerging current account surpluses can be achieved through a mix of investment increases to facilitate the ongoing restructuring of the industrial sector and savings reductions to finance much needed social welfare expenses. These adjustments in the saving/investment equation will go a long way toward ensuring a fairly balanced current account situation.

5. MONETARY AND FISCAL POLICIES

(a) Monetary policy, exchange rate policy and inflation

In the last twenty five years Korea had faced mostly current account deficits and a fairly restricted set of regulations on capital inflows and outflows. In spite of negative real interest rates and a protracted period of real appreciation in the seventies, capital outflows were minimal. Also for most of the last 25 years, Korea has used a managed exchange rate policy, with some long period of pegging the won to the U.S. dollars. The nominal rate was pegged to the U.S. dollar with a fixed parity from late 1974 to early 1980, and since then the won has been pegged to a basket of currencies. In this framework monetary and exchange rate policy played a central role in determining the long run rate of inflation and, together with fiscal policy, affecting the trajectory of the real exchange rate.

If the recent current account surpluses become more permanent, then the control of the growth in base money will require timely intervention to sterilize the monetary effect of the current account surpluses; otherwise undue monetization will develop, which could result in acceleration of inflation. In a country like Korea, where capital movements are substantially controlled, there is substantial role for sterilization of the monetary effects of current account surpluses.^{1/}

In the decade ahead as the array of financial instruments in domestic financial markets increases with the deepening of financial deregulation monetary control will become increasingly difficult. The monetary authority will need now to control the growth of base money and observe the trajectory of market determined interest rates.

^{1/} On the effectiveness of sterilization, see Obstfeld (1982).

As exchange rates among the major currencies may well continue to show substantial fluctuations, Korea will need to continue with a managed float with respect to a basket. For the nominal exchange rate rule to result in a stable and predictable real exchange rate trajectory, macro and wage policy should continue to be consistent with low inflation.

(b) Fiscal Policy Under Growing Demand for Social Development Expenditures

(i) Basic Approach to Welfare

During the last quarter century, Korea's major policy attention has been directed toward increasing national per capita income. However, with the virtual elimination of the absolute poverty, people are more concerned about equity in income distribution, living environment and adequate social services. These areas are where a larger government effort is called for. However, as policymakers seem to be well aware, Koreans are not inclined to envisage a welfare society based on heavy public welfare spending, a lesson learned from more advanced market economies.

The social insurance system including medical and unemployment insurance and the national pension program, which is expected to expand rapidly in the 1990s, will have to be based mainly on the principle of cost-sharing by beneficiaries. The welfare of workers should be better promoted by providing incentives to business firms rather than by the direct involvement of the government. Government support for the poor may be focused on increasing their employability by providing education, manpower training and medical services. This will help prevent the inter-generational perpetuation of poverty while serving economic efficiency as well. Finally, rapid economic growth has been accompanied by excessive urban concentration producing acute urban housing, transportation and pollution problems as well as inadequate

provision of rural infrastructures. This trend, if left unchecked, will seriously deteriorate the quality of life, both in urban and rural areas, widen regional disparity in income and living environment and increase other social costs.

(ii) The Tax Burden

Table 8 shows the size of the central government budget of Korea and its expenditure structure. The Korean government budget looks small, particularly so in light of the heavy defense spending amounting to one third of the total expenditures. With continuing tension on the peninsula, there seems to be little hope for the alleviation of the defense burden in the foreseeable future. Education spending, accounting for more than 20 percent of the total, is mainly a subsidy to local governments, whose revenue base is very weak. Expenditure on other social services is currently very small, but will have to be increased rapidly to meet the rising demand for these services even in the absence of any major fiscal support of the social insurance programs. Demand for economic services will not dwindle, as the government has to keep expanding infrastructural facilities to support increasing economic activities and reduce imbalance in regional development. Squeezing general administrative expenditure does not seem to be feasible, either, because public servants are now grossly underpaid in comparison with the comparable workers in the private sector, a situation which cannot be continued for long.

How is Korea going to meet this rising demand for government expenditures? As an essential part of the stabilization program since the late 1970s, the Korean government has successfully reduced its budget deficit. During 1983-86, the public sector unified budget deficit averaged 1.5 percent of GDP. The central government actually recorded some surplus,

Table 8. Size of Central Government Budget and Its Expenditure Structure (%)
(1983)

	Korea	Lower Middle Income Countries	Upper Middle Income Countries	Industrial Market Economies
Current Revenue/GNP	19.5	20.9	24.1	27.0
(Social security Contribution, % of Total Current Revenue)	(1.2)	n.a.	(12.0)	(34.1)
Total Expenditure/GNP	18.3	24.4	26.9	30.0
Composition of Expenditure				
Defense	31.9	15.5	9.8	14.3
Economic Services	13.6	26.5	20.2	9.2
Education	20.5	15.0	11.0	4.7
Other Social Services *	7.5	11.8	25.3	52.3
General Administration and Others	26.5	31.2	33.7	19.5

Source: World Bank, World Development Report, 1986.

* Includes health, housing, amenities, social security and welfare.

which was channelled into partly compensating for the deficits in government-run funds including the Grain Management Fund. Noteworthy is that this improvement in fiscal management was attained without any discernible increase in the tax burden ratio which remained at around 19 percent level of GNP.

An international cross-section analysis indicates that the Korean tax burden ratio is at least 3 percentage points lower than the international norm (see Note 3). As per capita income keeps growing at an annual rate of 5-6 percent with accompanying changes in budget structure toward more welfare-related spending and local taxation, Korea may aim to raise its tax burden ratio by 4-5 percentage points to a 23-24 percent level during the next ten

years. This implies that tax revenue can increase at a real rate of 8.5-9.0 percent a year, much faster than the economic growth of 6-7 percent.

Given the relatively sound budgetary position of the government, one may prefer borrowing to tax increases. To some extent, creation of government debt instruments will help promote Korea's domestic financial market, whose role is to be increasingly important in sterilizing disturbances in money supply arising through the phenomenon of current account surpluses. On the other hand, the expenditure structure of Korean government budget is considered to be already very rigid, with only about 30 percent of the total being discretionary items.^{1/} The 6 percent (of GNP) rule agreed with the U.S. Government is binding for defense spending and the central government subsidies to the local government for education and other expenses are also set as fixed proportions of its revenue under the current law. In this situation, excessive government borrowing, apart from raising the tax burden of the next generation, is viewed as adding to the budget's rigidity through an increasing interest payment burdens. Thus, reliance on borrowing is desired mainly in situations where recession generates large budget deficit and the risk of financial crowding-out is not high. So we think that one way or the other the tax burden will need to increase in the next decade.

^{1/} Non-discretionary expenditures include defense, economic services and education.

6. CONCLUSION

Korea has been able to adjust quite successfully to its severe macro imbalances that developed in the late 1970s. These macro imbalances included a sharp slowdown in output growth, accelerating inflation in spite of price controls, an increasing current account deficit and an ever increasing external debt and a loss in international competitiveness. The adjustment-cum-growth program implemented in the 1979-82 period plus an improvement in external conditions have resulted in a dramatic turnaround. The current account deficit, that reached 8.7 percent of GNP in 1980, has been transformed in a surplus close to 5 percent of GNP; annual inflation that was in the 25 to 40 percent per year range in 1980 is less than 3 percent today; and the growth rate of GNP that reached an annual average of 0.5 percent per year in the 1979-80 period reached 7.8 percent in the 1981-85 period and 12.5 percent in 1986.

From the review of Korea's macroeconomic prospects for the next decade we have concluded that although the external environment will not be as favorable as in the 1983-86 period, still the Korean economy will be resilient enough to achieve a 6-7 percent annual growth rate for the next decade. Areas where new policy actions will be required are in the management of monetary policy and the provision of social welfare. Although we see some increase in the protectionist threat against Korea's exports, we think that with the pressures for higher consumption and investment and the less favorable external environment will result in smaller trade surpluses in the years ahead.

NOTES

1. The following framework was used to calculate the effect of external shocks on the current account and net external debt.

$$C = T - iD_m + O_c$$

$$C^* = T^* - i^*D_m^* + O_c$$

$$D = D_{-1} - C + O_d$$

$$D^* = D_{-1}^* - C^* + O_d$$

where	C	=	Current account balance
	T	=	Trade balance
	i	=	Average interest rate on net foreign debt
	D, D _m	=	Outstanding external debt, end of year and year-average, respectively
	O _c	=	Residual item of the current account
	O _d	=	Other source of debt accumulation or decumulation

and * indicates a corresponding value in the absence of external shocks (changes in the terms of trade and international interest rate).

Net debt without the external shocks was calculated as follows, which, in turn, was used to get the current account balance in the absence of the shocks.

$$\begin{aligned}
 D^* - D &= (D^* - D)_{-1} - (C^* - C) \\
 &= (D^* - D)_{-1} - (T^* - T) + i^*(D_{-1}^* + D^*)/2 - i(D_{-1} + D)/2
 \end{aligned}$$

i.e.,

$$D^* = \frac{(1 - i/2)D + (1 + i^*/2)D_{-1}^* - (1 + i/2)D_{-1} - (T^* - T)}{1 - i^*/2}$$

where $i^* = i(1980)$, and T^* is the hypothetical trade balance with the constant terms of trade of 1980.

2. The calculation of sectoral growth contribution was based on the following decomposition of GNP

$$Y = (Y_a - M_a) + (E - M_e) + S$$

$$M_a + M_e = M$$

where

Y	=	GNP
Y_a	=	Absorption
E	=	Commodity exports
M	=	Commodity imports
M_a, M_e	=	Commodity imports for absorption and commodity exports, respectively, and
S	=	Net service exports.

Using the prior information that the import content of exports has been roughly stable at 0.35,

$$M_e = \lambda(0.35E)$$

From the following estimated equation

$$M - 0.35E = (0.1438 + 0.004749 \text{ Time}) Y_a$$

(9.1) (5.3)

Sample = 1965-86 (annual) $R^2 = 0.974.$

$$M_a = \lambda(0.1438 + 0.004749 \text{ Time}) Y_a$$

where Time is a time variable (1965=1, 1966=2, etc.) and λ (whose mean value for the sample is 1.0) is an adjustment factor ensuring the import identity each year. Sectoral contribution was obtained by allocating the GNP growth rate in proportion to the cumulative change (net of required imports) of a sector.

3. The international norm of the tax burden ratio was derived from the fitted values of the following equations.

$$T/\text{GDP} (1972) = -20.1 + 4.73 \ln Y + 0.013 e_s + 0.135 t_i + 1.04 T/\text{GDP}$$

(2.79) (0.12) (1.38) (2.53) ϵ

$$R^2 = 0.696$$

$$T/GDP (1981) = -3.19 + 3.41 \ln Y + 0.052 e_s - 0.066 t_i + 0.569 T_e/GDP$$

(2.10) (0.63) (0.92) (2.00)

$$R^2 = 0.665$$

- where
- T/GDP = Ratio of general government tax revenue to GDP
 - Y = Per capita GDP in nominal U.S. dollars
 - e_s = Expenditure share of central government on education, health, housing, social security and welfare
 - t_i = Share of indirect taxes in the total tax revenue of the central government, and
 - T_e/GDP = Ratio of local government tax revenue to GDP.

Sample countries were 31 for 1972 and 39 for 1981. They represent all countries for which the data were available in IMF, Government Finance Statistics Yearbook 1984 and World Bank, World Development Report, 1984, except Kuwait and Iran, which were excluded because of the predominant reliance on oil for the government revenue. According to the above equations, Korea's tax burden ratio was 2.6 percentage points and 3.4 percentage points lower than the respective norms in 1972 and 1981.

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