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# 6 The Role of Trade and Exchange Rate Policy in Korea's Growth

Chong-Hyun Nam

## 6.1 Introduction

Since the 1960s the Korean economy's rapid growth has attracted attention worldwide. Although Korea's success may be linked to a number of factors, an outward-oriented trade strategy adopted in the early 1960s and onward has often been cited as the most important contributor.

The evolution of economic policies in Korea, however, suggests that the outward-oriented strategy was not instituted by a single stroke of policy, but rather was implemented through a very complicated and continuing process under heavy-handed government intervention. For example, until very recently domestic markets remained highly protected for a supposedly outward-oriented economy, and during the 1970s, the government was actively involved in promoting the so-called heavy and chemical industries (HCIs),[1] with package assistance programs for these "strategic" industries. For these reasons, many—both inside and outside Korea—have questioned whether Korea's success was possible because of, or in spite of, a very activist role for government in both trade and investment activities throughout most of its recent economic development.

The purpose of this paper is to review the evolution of Korea's trade and exchange rate policy and to examine the role it has played in Korea's economic growth over the 1962–91 period. Following this analysis, I will highlight several lessons that developing countries can learn from Korea's experiences.

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1. HCIs include such industries as basic metals, petrochemicals, machinery, electrical and electronic products, and transport equipment.

## 6.2 Evolution of Trade and Exchange Rate Policies and Growth Performance, 1962–91

### 6.2.1 Establishing an Outward-oriented Economy through Export Promotion

Prior to 1960, the Korean economy suffered from severe macroeconomic imbalances, such as high unemployment, budget deficits, and balance-of-payments deficits under the high pressure of inflation, all of which could be expected in an immediate postwar period. During the latter half of the 1950s, for example, annual inflation averaged more than 30 percent and the balance-of-payments deficit averaged between 5 and 10 percent of GNP.

The government's efforts were therefore largely directed to alleviating economic pressures on the price level and the balance of payments. As part of the anti-inflationary measures, nominal exchange rates were kept fixed with only insufficient adjustments, resulting in the chronic overvaluation of the Korean won. On the other hand, to bring the balance-of-payments problem under control, the authorities resorted heavily to import restriction measures such as multiple exchange rates, import licensing, and high tariffs on selected items. To be sure, there were some export incentives introduced during the 1950s, including, for example, financing for the purchase of export goods, an export bonus given through preferential foreign exchanges, and discounts on railroad freight (Hong 1979, 53–57). The net result of these policies, however, was discrimination against exports, since incentives given for import substitution were far greater. Thus, until the late 1950s, Korea was a typical inward-oriented economy.

In contrast to the imbalanced economic policies during the 1950s, numerous policy reforms and new plans were put forth during the 1960s, beginning with the first Five-Year Economic Plan (1962–66) implemented in 1962. Issues such as development of key industries and creation of an adequate supply of social overhead capital were especially stressed in this plan, as well as in the succeeding Five-Year Economic Plans.

The major policy shift, however, began with the reform of the payment regime and of the financial sector in 1964 and 1965. After a unified exchange rate was established in 1961, the Korean currency was devalued from 130 won to 255 won per U.S. dollar in May 1964. Following the exchange rate reform, the government raised the interest rates on ordinary loans of banking institutions from 16 to 26 percent per annum in September 1965. Along with these reforms, the government introduced a comprehensive set of export incentives during the 1960s.

The export incentives included a preferential tax system, a preferential loan system, and various administrative support systems. The preferential tax system consisted of tariff exemptions on imported raw materials and intermediate and capital goods for export production, exemptions from indirect taxes for

intermediate inputs and export sales, the reduction of direct taxes on profits earned through export activities, the introduction of reserve funds created from taxable income to develop new foreign markets and to defray export losses, and the creation of an accelerated depreciation allowance for fixed capital used directly in export production. The preferential loan system provided exporters with access to subsidized short- and long-term credits for their purchase of inputs and financing of fixed investments. Also, generous wastage allowances were granted on imported duty-free raw materials over and above the requirements of actual export production. An export-import linkage system permitting access to otherwise prohibited imports was put into operation, and preferential rates on several overhead inputs such as electricity were made available.

Some of these export incentives simply enabled exporters to operate under a virtually free trade regime by allowing them to buy their inputs and sell their outputs at world market prices. But others constituted genuine subsidies that helped to enhance the profitability of export sales relative to domestic sales. In fact, given that the effective protection rates for domestic sales were estimated at −1.1 percent for the manufacturing sector and 17.8 percent for the agricultural sector in 1968, the Korean incentive system appears to have favored manufacturing production activities for export sales over domestic sales during the 1960s.[2]

The system of export incentives remained virtually unchanged through the early 1970s. Beginning in 1973, however, some of these incentives were abolished in order to reduce the scope of export subsidies. The 50 percent reduction in taxes on profits from export earnings was abolished in 1973. In July 1975, the system of prior tariff exemptions on imported inputs used in export production was changed into a drawback system. The discount on electricity was abolished in 1976, and wastage allowances were repeatedly reduced, bringing them closer to the actual rate during the 1970s.

As a result, since the mid-1970s, interest rate subsidies and the availability of export-related loans have become the major export incentives. Preferential loans for export activities were steadily expanded throughout the 1970s. For instance, preferential short- and long-term loans to export industries as a proportion of total domestic credit increased from 5.1 percent in 1966 to 20.5 percent in 1978 (Nam 1981b, 193). The average interest rate on all preferential export loans was 7.7 percent in 1966 and 10.6 percent in 1978, whereas the lending rate on ordinary loans from commercial banks was 26.4 percent in 1966 and 19.0 percent in 1978. This interest rate differential between preferential and ordinary loans was gradually reduced and finally abolished with the June 1982 interest rate reform. Simultaneously, the government restricted the availability of export-related loans, so that by 1988, only small firms could

2. See Westphal and Kim (1977, table 2), and further discussion follows in the next section.

**Table 6.1** **Tariff and Nontariff Import Restrictions in Korea, 1957–91**

| Year | Simple Average Tariff Rates (%) | Number of Prohibited or Restricted Items | Number of Automatic Approval Items (A) | Total Number of Import Items (B) | Rate of Import Liberalization (A/B)(%) |
|---|---|---|---|---|---|
| 1957 | 30.3 | | | | |
| 1962 | 39.9 | | | | |
| 1967 | 39.9 | 520 | 792 | 1,312 | 60.4 |
| 1973 | 31.5 | 629 | 683 | 1,312 | 52.1 |
| 1975 | 31.5 | 668 | 664 | 1,312 | 49.1 |
| 1977 | 29.7 | 621 | 664 | 1,312 | 52.7 |
| 1979 | 24.8 | 928 | 682 | 1,010 | 67.5 |
| 1981 | 24.9 | 1,911 | 5,649 | 7,560 | 74.7 |
| 1983 | 23.7 | 1,482 | 6,078 | 7,560 | 80.4 |
| 1985 | 21.3 | 970 | 6,945 | 7,915 | 87.7 |
| 1987 | 19.3 | 499 | 7,408 | 7,911 | 93.6 |
| 1989 | 12.7 | 465 | 9,776 | 10,241 | 95.5 |
| 1991 | 11.4 | 283 | 9,991 | 10,274 | 97.2 |

*Sources:* Korean Traders Association, *Annual Report on Foreign Trade* (Seoul, various years); Kim (1988, tables 3 and 4) for 1957 and 1962.

*Note:* The classification of import items was based on the SITC basic codes through 1977, four-digit CCCN codes for 1979, eight-digit CCCN codes during 1981–87, and 10-digit HS codes during 1989–91.

receive them. This action reduced their share in total domestic credit to less than 3 percent by 1991.

### 6.2.2 Import Restrictions and Liberalization in an Outward-oriented Economy

Despite the introduction of a comprehensive set of export promotion policies in the early 1960s, the relaxation of import controls did not proceed in any significant way until the latter half of the 1960s. In fact, faced with dwindling U.S. foreign assistance and widening trade deficits, the military government that came into power in 1961 tightened import controls in the early 1960s. As a result, the simple average of legal tariff rates reached a peak of nearly 40 percent in 1962 and stayed at that level throughout the 1960s (see table 6.1). In addition to the regular tariffs, special tariffs were also used between 1964 and 1973. The special tariffs were introduced mainly to soak up some of the excess profits that might accrue to importers of inessential commodities that were subject to quantitative restrictions (QRs). The special tariff rates were estimated at 0.8–3.2 percent of the total value of imports during the 1964–72 period (Kim 1988, 15) before they were abolished in 1973. The average legal tariff rate gradually fell thereafter, reaching 11.4 percent by 1991.

Although the legal tariff rates were generally set very high, they were to a

**Table 6.2 Operative Import Tariff Rates in Korea, 1966–91**

| | 1966 | 1970 | 1975 | 1980 | 1985 | 1991 |
|---|---|---|---|---|---|---|
| A. *Tariffs collected and exempted* | | | | | | |
| 1. Tariff collected (billion won) | 18.0 | 50.9 | 181.0 | 766.1 | 1,566.1 | 3,435.5 |
| 2. Tariff exempted (billion won) | 20.3 | 107.1 | 222.7 | 789.5 | 2,982.0 | 3,711.0 |
| 3. Total legal tariffs (A.1 + A.2) | 38.3 | 158.0 | 403.7 | 1,555.6 | 4,548.1 | 7,146.5 |
| 4. Total imports (million U.S. $) | 716.4 | 1,194.0 | 7,274.4 | 21,598.0 | 31,135.6 | 81.524.9 |
| 5. Total imports (billion won) | 194.4 | 616.2 | 3,520.8 | 13,737.0 | 27,716.3 | 62,024.1 |
| B. *Tariff rates* | | | | | | |
| 1. Actual tariff rates (A.1/A.5) | 9.3 | 8.3 | 5.1 | 5.6 | 5.6 | 5.5 |
| 2. Legal tariff rates (A.3/A.5) | 19.7 | 25.6 | 11.5 | 11.3 | 16.4 | 11.5 |

*Sources:* Ministry of Finance, Office of Taxation; Bank of Korea, *Economic Statistics Yearbook* (Seoul, 1992).

large extent inoperative in Korea. Many imports were exempt from duties, and a number of commodities were subject to prohibitive tariffs. Intermediate goods for export production, for instance, were imported duty free, as were some capital goods for special uses or specific industries. Table 6.2 presents the data on tariffs actually collected and exempted, with the implicit tariff rates calculated on the basis of these data. According to the data, the legal tariff rates for all commodity imports far exceeded the actual tariff rates over the 1966–91 period.[3] During the latter half of 1960s, the legal tariff rate reached 20–26 percent, whereas the actual tariff rate remained at around 8–9 percent. In the 1970s and 1980s, the legal tariff rate fell to 11–16 percent and the actual tariff rate reached around 5–6 percent. These figures for legal and actual tariff rates, however, should not be taken as a measure of protection given to import substitution activities in Korea because, at least until recently, the QRs applied to many import items have been far more important than tariffs in controlling imports.

Indeed, as of the mid-1960s, imports were tightly controlled by the extensive use of QRs in Korea. According to Kim's estimation (1988, 20), as much as 88 percent of all import items were subject to QRs in the first half of 1967, despite the fact that import items liberalized under the "positive list" system increased from 1,447 to 2,950 during the 1965–67 period. A significant import liberalization, however, took place in the second half of 1967, as the earlier positive list system was replaced by a negative list system, in which all import items not listed were automatically approved for importation. As can be seen in the last column of table 6.1, more than 60 percent of the 1,312 basic import items (SITC four-digit) became automatically approved for import in 1967. But since then, the import liberalization rate fell steadily until 1975, when it reached a low of 49.1 percent.

3. Both legal and actual tariff rates calculated here represent an average rate weighted by import shares of individual import items.

This setback in liberalization was partly a result of the government's effort at that time to promote the HCIs. The government began the HCI drive by introducing a series of industry-specific promotional laws in the late 1960s, but it pursued the policy much more vigorously during the 1973–79 period when it instituted package assistance programs for investment.[4]

The government began to relax import controls in 1977, as the current account balance developed a small surplus, mainly due to increased income from oversea construction businesses in the oil-rich Middle Eastern countries. This liberalization was also interrupted by the second oil shock of 1979 and the worsening of the balance-of-payments situation in subsequent years. At the same time, large investment projects in the HCIs encouraged by the government in the 1970s began to produce a number of failures by the late 1970s.

Consequently, the Korean economy underwent a period of serious stagnation in both growth and export performance during 1979–81, registering a negative real growth rate, of 3.7 percent in 1980, for the first time in its postwar history. At the same time, the Korean economy was suffering from a number of structural imbalances, such as underdevelopment of the financial sector, insufficient development of small and medium-sized firms, and an unjustifiable protection structure of the home markets.

The policy reaction of the government to these unfavorable developments was to increase its reliance on market mechanisms. First, a long overdue currency adjustment was made. The Korean won, which had been pegged to the U.S. dollar at 484 won per dollar since 1974, was devalued to 580 won per dollar in 1980. After that, the Korean won was allowed to depreciate gradually to 893 won per dollar by the end of 1985.

The government also stepped up its effort to liberalize import controls and thereby to increase competition in domestic markets and to reduce the cost of protection. In 1983, the government announced a time-phased import liberalization plan for the 1983–88 period. According to the plan, not only was the range of basic tariff rates to be reduced, but the average basic tariff rate was to be lowered from 23.7 percent in 1983 to 18.1 percent by 1988. At the same time, Korea's import liberalization rate was to be increased from 80.3 percent in 1983 to 95.2 percent by 1988. It is notable that this liberalization plan was put into action when the Korean economy was suffering from persistent trade deficits.

After the successful and timely completion of the 1983 liberalization, a new tariff reform plan was prepared for 1989–93. According to this new plan, the average tariff rate was to be decreased from 18.1 percent in 1988 to 7.9 percent

4. There were several reasons for launching the HCI drive in the early 1970s. First, the government feared that Korea would soon lose its international competitiveness in labor-intensive manufactured goods, largely due to the rapid increase in domestic wage-rental ratios at the time. Second, rising protectionism abroad against imports of light industrial products was also viewed as a limit to continued export expansion. Finally, national security concerns worked for the promotion of the HCIs as a way of building a strong defense industry.

in 1993, and the average tariff rate for manufactures from 16.9 percent to 6.2 percent in the same period.

Along with the import liberalization schemes, the government introduced a series of policy reforms in the 1980s. Among other measures, the major commercial banks were privatized, and all interest subsidies were eliminated from "policy" loans, including export loans, in 1982. All industry-specific promotion laws were abolished, and a more general Industry Promotion Law was introduced in 1986. The government also resorted to tighter monetary and fiscal restraints. These policy reforms undoubtedly contributed to the success of the Korean economy in curbing inflation, resuming a high growth rate, and turning the trade balance from red to black in the latter half of the 1980s.

### 6.2.3 Long-Term Economic Performance

Table 6.3 provides basic data on the growth and transformation of the Korean economy for the 1962–91 period. Real GNP of Korea has increased more than 18-fold during the 1962–91 period, with an average annual growth rate of 10.6 percent. This contrasts with an average growth rate of 3.6 percent during the earlier inward-oriented period of 1954–62. As a result, real per capita GNP in Korea rose from $306 in 1962 to $5,240 in 1991 when measured in 1985 U.S. constant prices. The gradual decline in the rate of population growth, from 2.6 percent for 1962–71 to 1.1 percent for 1981–91, also contributed to this rapid increase in per capita income (Korea's population grew to 43.3 million by 1991, from 25.6 million in 1962).

The policy shift in the early 1960s brought fundamental changes in all sectors of the economy. First of all, rapid expansion of exports was achieved, initially through the rapid increase of labor-intensive production, followed by the expansion of capital- and skill-intensive production as factor endowments shifted with capital and skill accumulation. As seen in table 6.3, the ratio of exports to GNP was only 2.4 percent ($54 million) as of 1962, but rose to 11.6 percent ($1.1 billion) in 1971, and to 25.6 percent ($71.9 billion) in 1991. Moreover, manufactured goods have been the dominant element in export growth: exports of manufactured goods accounted for only 27.0 percent of total exports in 1962, but increased their share to 86.0 percent by 1971, and to 95.4 percent by 1991. As a result, the share of the manufacturing sector in GNP rose from 11.7 percent in 1962 to 27.5 percent in 1991, whereas agriculture's share decreased from 43.6 percent to 8.1 percent in the same period. Likewise, the share of the manufacturing sector in total employment increased from 8.7 percent in 1962 to 26.9 percent in 1991, whereas agriculture's share declined from 63.1 percent to 16.7 percent in the same period.

The rapid expansion of labor-intensive production since the early 1960s has also helped to improve the employment situation: the official unemployment rate, which stood at 8.4 percent in 1962, decreased to 4.4 percent in 1971, and to 2.3 percent in 1991. The labor market has remained at near full employment since 1973, with an unemployment rate never more than 4 percent, except dur-

**Table 6.3** **Major Economic Indicators for Korea, 1962–91**

| Indicator | 1962 | 1971 | 1981 | 1991 | Average Annual Growth Rate | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | 1962–71 | 1971–81 | 1981–91 | 1962–91 |
| *Population (million)* | 26.5 | 32.9 | 38.7 | 43.3 | 2.4 | 1.6 | 1.1 | 1.7 |
| *GNP (billion won)*[a] | 7,595 | 18,564 | 55,354 | 141,602 | 10.4 | 11.5 | 9.8 | 10.6 |
| *Per capita GNP* | | | | | | | | |
| In thousand won[a] | 287 | 564 | 1,430 | 3,270 | 8.0 | 9.9 | 8.7 | 8.9 |
| In U.S. dollars[b] | 306 | 735 | 2,074 | 5,240 | | | | |
| *Sectoral share in GNP (%)* | | | | | | | | |
| Agriculture | 43.6 | 29.5 | 15.6 | 8.1 | | | | |
| Manufacturing | 11.7 | 21.8 | 31.3 | 27.5 | | | | |
| Services and social overhead | 44.7 | 48.7 | 53.1 | 64.4 | | | | |
| *Sectoral share in employment (%)* | | | | | | | | |
| Agriculture | 63.1 | 48.2 | 34.2 | 16.7 | | | | |
| Manufacturing | 8.7 | 14.2 | 21.3 | 26.9 | | | | |
| Services and social overhead | 28.2 | 37.6 | 44.5 | 56.4 | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Unemployment rate (%)* | 8.4 | 4.4 | 4.5 | 2.3 | | | | |
| *Exports and imports* | | | | | | | | |
| Commodity exports[c] (f.o.b.; million U.S. $) | 54 | 1,067 | 21,254 | 71,870 | 39.3 | 34.8 | 12.9 | 28.2 |
| Ratio of exports to GNP (%) | 2.4 | 11.6 | 31.9 | 25.6 | | | | |
| Share of manufactures in exports (%) | 27.0 | 86.0 | 92.9 | 95.4 | | | | |
| Commodity imports[c] (c.i.f.; million U.S. $) | 421 | 2,394 | 26,131 | 81,525 | 21.3 | 27.0 | 12.1 | 19.9 |
| Ratio of imports to GNP (%) | 183 | 25.2 | 29.1 | 29.0 | | | | |
| *Investment and saving* | | | | | | | | |
| Share of investment in GNP (%) | 12.8 | 25.4 | 29.1 | 39.4 | | | | |
| Domestic saving rate (%) | 3.3 | 15.5 | 21.7 | 36.2 | | | | |
| Foreign saving rate (%) | 10.6 | 10.8 | 7.8 | 3.1 | | | | |
| *GNP deflator (1985=100)* | 3.3 | 12.8 | 82.2 | 145.5 | 16.3 | 20.4 | 5.9 | 13.9 |
| *Wholesale price index (1985=100)* | 5.6 | 15.8 | 93.9 | 111.3 | 12.2 | 19.5 | 1.9 | 10.9 |
| *Real wage index[d] (1985=100)* | 21.8 | 36.8 | 75.9 | 180.3 | 6.0 | 7.5 | 9.0 | 7.6 |

*Source:* Bank of Korea, *Economic Statistics Yearbook* (Seoul, various years).

[a]Based on 1985 constant prices.

[b]Based on 1985 U.S. constant prices.

[c]Based on current prices.

[d]For the manufacturing sector.

ing the period of economic stagnation in the early 1980s. In the late 1980s, a labor shortage was acutely felt in some sectors of the economy, due to an overheated domestic construction boom.

During the past 30 years, foreign financing has played an important role in filling the domestic investment and savings gap, to allow for Korea's rapid growth. Table 6.3 indicates that gross investment rose from 12.8 percent of GNP in 1962 to near 40 percent by 1991. The domestic saving rate, however, measured only 3.3 percent of GNP in 1962, but rose rapidly with growth in real incomes, reaching 36.2 percent by 1991. As a result, foreign financing in terms of the ratio to GNP fell from nearly 10 percent in 1962 to 3.1 percent by 1991. In the meantime, however, Korea briefly became a net capital exporter due to a rising surplus in its trade account: between 1986 and 1989 Korea experienced a period of trade surplus, reaching a peak of 8.1 percent of GNP in 1988.

Despite the impressive performance of the Korean economy over the 1962–91 period, a few aspects of the underlying policy management need to be mentioned. First, the HCI promotion drive of 1973–79 scarred the Korean economy for years. It created excess capacities in some unprofitable industries, while depleting investment funds that would have otherwise been available to other export industries.[5] Distortions in the domestic capital market were also severe since preferential loans below market rates became a major instrument in promoting the HCIs.

Second, despite the high domestic inflation rate relative to that of Korea's trading partners during the 1970s, the exchange rate had been pegged at 484 won per U.S. dollar during 1974–80, resulting in a real appreciation of the won against the dollar by more than 20 percent for 1973–79 (see table 6.4 in the next section). Thus, the massive investments in the HCIs, combined with the stagnation in export performance due to unfavorable exchange rates, forced the Korean economy to rely heavily on foreign borrowing to finance its domestic savings gap, raising the external debt, which stood at $16.8 billion in 1978, to $40.1 billion by 1983.

Third, ever since the first Five-Year Economic Plan was launched in 1962, the government had tended to put forward very ambitious investment programs, which were often met by a rapid increase in monetary growth. This in turn helped raise domestic price levels, especially for the first two decades of the 1962–91 period: the average annual inflation rate in terms of GNP deflators was 16.3 percent for 1962–71 and 20.4 percent for 1971–81, but it fell to 5.9

5. The absorption of fixed investment by the HCIs continued to rise from 49 percent of all fixed investment in the manufacturing sector in 1973 to nearly 70 percent in 1979. In the meantime, the capacity utilization rate for certain HCIs fell well below the average rate for the manufacturing sector, resulting in poor business performance. For instance, the average capacity utilization rate averaged only 35 percent for transport equipment, 60 percent for machinery, and 69 percent for electrical appliances in 1979, whereas it was estimated at 82 percent for the manufacturing sector as a whole in the same year. See Nam (1981a, 174, 193).

percent for 1981–91. Of course, such inflation rates could be regarded as modest compared to those experienced by some Latin American countries, but they were much higher than those experienced by Korea's immediate competitors Taiwan, Singapore, and Japan.

Finally, throughout most of the recent development period of 1962–91, the Korean labor market has remained rather undistorted. No minimum wage law was enforced, nor was any disruptive action by labor unions allowed. But with the recent democratization drive launched by the government in 1987, Korea has witnessed rapid growth in union membership and in the number of violent labor disputes.[6] Unions exerted tremendous pressure for a steep wage hike in the late 1980s, in an economy which was already strained by a labor shortage. Moreover, as Korea's trade balance (especially with the United States) turned into a surplus beginning in 1986, the Korean government was hard pressed by the U.S. authorities to alter the won-dollar exchange rate and to reduce Korea's trade surplus with the United States. This led to a rapid, and perhaps too large, appreciation of the won from 881 won per dollar in 1986 to 671 won per dollar in 1989. By 1990, Korea's trade account was again running a deficit and exports stopped growing in real terms. By 1992, the growth rate of real GNP fell to less than 5 percent, the lowest rate since 1980. Undoubtedly, a sharp rise both in real wages and in won values in the late 1980s played an important role in bringing about this outcome, though the extent to which they contributed to is not known.

## 6.3 The Relation between Trade Incentives, Exchange Rates, and Economic Growth

The single most important feature of Korea's rapid economic growth over the past three decades is that it has been accompanied by even faster growth of manufactured exports. The rapid growth of exports must have served as an important source of employment creation by stimulating domestic production in a multiplied way when the domestic economy was subject to high unemployment, as was the situation in the 1960s and the early 1970s in Korea. The Korean economy must also have benefited from a number of dynamic externalities generated by opening domestic markets to foreign competition, not to mention the static gains from trade expansion itself. As shown in the previous section, a number of policies have been actively pursued by the Korean government in order to make this export-led growth possible. The relative importance of those policies in explaining export growth and their possible links to economic growth will be examined below.

6. The number of labor disputes increased from 276 cases in 1986 to 3,749 cases in 1987. The number has been decreasing since then, to 1,616 cases in 1989 and 234 cases by 1991. See Sakong (1993, 83).

### 6.3.1 Exchange Rates, Exports, and Economic Growth

Table 6.4 provides summary statistics on the impact of major trade incentives in terms of effective exchange rates for exports and imports. The effective exchange rate for exports includes the subsidy effects of the following: the dollar premium due to multiple exchange rates (1963–64 only), direct subsidy payments (1962–64 only), direct tax reduction (1962–73 only), and interest subsidies due to preferential rates (1962–82 only). The relative importance of these export subsidies was particularly pronounced in the early 1960s when the nominal exchange rate was kept unrealistically low. For instance, the effective export subsidies amounted to as much as 36.6 percent of the official exchange rate in 1963 and 23.1 percent in 1964, but since then, they were never greater than 6.7 percent (in 1971), and in 1982 they were entirely removed.

The effective export subsidies measured above, however, underestimate the true level for several reasons. First, they do not include subsidy effects such as those from accelerated depreciation allowances, reserve funds for developing export markets and export losses, wastage allowances, and preferential rates on some overhead inputs, because either these factors are relatively insignificant in magnitude or the data are not available. Second, the interest subsidy above has been estimated by taking the differential between the interest paid by exporters under preferential rates and the interest payable at nonpreferential rates. The nonpreferential lending rates on ordinary bank loans, however, were also under complete government control and often were set unrealistically low.[7] Finally, although it is impossible to quantify the value, no one can deny that the effect of the informal incentives—such as the rapid processing of government paper work, the assurance of governmental support in the future, etc.—that the government provided to exporters may have been substantial.

More important than the role of effective export subsidies, however, has been the role of exchange rate management itself in keeping Korean exporters competitive in international markets. Given the fact that the Korean inflation rate was much higher than that of its major trading partners, the lack of flexibility in exchange rate management could have grossly undermined Korean exporters' international competitiveness. To show how the exchange rate was managed for the 1962–91 period, table 6.4 provides estimates of various real exchange rates which were obtained by adjusting nominal rates for changes in purchasing power parity (see notes to table 6.4). Several features of the table are noteworthy. First, continuous adjustments in nominal exchange rates, not the extent of export subsidies, played the dominant role in keeping real exchange rates stable and hence maintaining exporters' international competitiveness. For instance, between 1962 and 1982, during which period export subsidies were provided, export subsidies never accounted for more than 7 percent of nominal exchange rates except for a few years in the early 1960s,

7. In fact, Hong's (1979) estimate has shown that all loans through financial institutions in the 1970s were extended, on average, at a negative real rate of interest.

**Table 6.4** **Nominal and Real Effective Exchange Rates for Exports and Imports, 1962–91**

| Year | Nominal Exchange Rate[a] (won per U.S. $) | | | Wholesale Price Index (1985=100) | | Real Exchange Rate[d] (won per U.S. $) | | | Export-Import Exchange Rate Ratio |
|---|---|---|---|---|---|---|---|---|---|
| | Official Rate | Effective Rate[b] | | | | Official Rate | Effective Rate | | |
| | | Exports | Imports | Korea | Major Trading Partners[c] | | Exports | Imports | |
| 1962 | 130.0 | 141.8 | 146.3 | 5.6 | 30.1 | 697.0 | 762.3 | 786.5 | 0.99 |
| 1963 | 130.0 | 177.6 | 148.1 | 6.7 | 30.2 | 586.1 | 800.0 | 667.1 | 1.20 |
| 1964 | 213.8 | 263.1 | 246.4 | 9.1 | 30.8 | 725.0 | 891.8 | 835.3 | 1.07 |
| 1965 | 266.4 | 276.3 | 294.2 | 10.0 | 30.9 | 821.3 | 852.7 | 908.0 | 0.94 |
| 1966 | 270.3 | 276.7 | 295.4 | 10.9 | 31.8 | 789.3 | 809.1 | 863.7 | 0.94 |
| 1967 | 268.3 | 281.3 | 293.8 | 11.5 | 31.6 | 731.1 | 766.5 | 800.5 | 0.96 |
| 1968 | 276.3 | 293.3 | 302.2 | 12.5 | 32.8 | 725.8 | 769.8 | 793.2 | 0.97 |
| 1969 | 288.4 | 306.4 | 312.9 | 13.3 | 33.6 | 730.6 | 773.2 | 792.2 | 0.98 |
| 1970 | 310.4 | 330.6 | 336.1 | 14.5 | 34.3 | 729.4 | 776.3 | 788.9 | 0.98 |
| 1971 | 350.1 | 374.1 | 371.9 | 15.8 | 35.7 | 790.3 | 844.5 | 839.5 | 1.01 |
| 1972 | 394.0 | 408.6 | 417.9 | 19.3 | 43.1 | 889.3 | 912.0 | 932.8 | 0.98 |
| 1973 | 398.5 | 408.5 | 417.9 | 19.3 | 43.1 | 889.3 | 912.0 | 932.8 | 0.98 |
| 1974 | 406.0 | 413.2 | 424.5 | 27.4 | 55.8 | 82.73 | 841.5 | 864.6 | 0.97 |
| 1975 | 484.0 | 494.1 | 508.9 | 34.6 | 61.2 | 856.9 | 841.5 | 864.6 | 0.97 |
| 1976 | 484.0 | 496.3 | 515.4 | 38.8 | 62.3 | 776.4 | 796.6 | 827.3 | 0.96 |
| 1977 | 484.0 | 493.4 | 519.7 | 42.3 | 74.6 | 853.2 | 870.2 | 916.6 | 0.95 |
| 1978 | 484.0 | 495.0 | 526.9 | 47.3 | 77.1 | 791.1 | 808.8 | 860.9 | 0.94 |
| 1979 | 484.0 | 495.0 | 522.3 | 56.1 | 84.6 | 730.2 | 746.6 | 787.8 | 0.95 |
| 1980 | 607.4 | 628.0 | 642.9 | 78.0 | 96.3 | 750.8 | 776.3 | 794.7 | 0.98 |
| 1981 | 681.0 | 696.0 | 717.6 | 93.9 | 101.0 | 734.0 | 750.0 | 773.3 | 0.97 |
| 1982 | 731.0 | 734.0 | 774.1 | 98.2 | 98.7 | 734.6 | 737.7 | 778.0 | 0.95 |
| 1983 | 775.7 | 775.7 | 734.4 | 98.4 | 99.0 | 780.3 | 780.3 | 839.4 | 0.93 |
| 1984 | 805.9 | 805.9 | 857.9 | 99.1 | 100.2 | 814.8 | 814.8 | 867.4 | 0.94 |
| 1985 | 870.0 | 870.0 | 920.3 | 100.0 | 100.0 | 870.0 | 870.0 | 920.3 | 0.95 |
| 1986 | 881.4 | 881.4 | 942.9 | 98.5 | 101.8 | 910.1 | 910.1 | 974.0 | 0.94 |
| 1987 | 822.5 | 882.5 | 888.2 | 99.0 | 109.5 | 910.0 | 910.0 | 982.5 | 0.93 |
| 1988 | 731.4 | 731.4 | 781.1 | 101.7 | 122.4 | 880.1 | 880.1 | 939.9 | 0.94 |
| 1989 | 671.4 | 671.4 | 705.8 | 103.2 | 126.7 | 825.3 | 825.3 | 867.1 | 0.95 |
| 1990 | 707.7 | 707.7 | 747.3 | 107.5 | 130.6 | 860.1 | 860.1 | 908.0 | 0.95 |
| 1991 | 733.3 | 773.3 | 775.4 | 113.3 | 134.7 | 875.5 | 875.5 | 921.9 | 0.95 |

*Sources:* Bank of Korea, *Economic Statistics Yearbook* (Seoul, various years); International Monetary Fund, *International Financial Statistics* (Washington, D.C., various years).

[a]Data for 1962–65 were obtained from Westphal and Kim (1982, 218), and others were calculated by the author.

[b]The effective exchange rate for exports includes exchange premiums due to multiple exchange rates, direct cash subsidies, direct tax reductions, and interest subsidies per dollar of exports, but excludes indirect tax and tariff exemptions. The effective exchange rate for imports includes actual tariffs collected per dollar of imports, but excludes the price effects of QRs on imports.

[c]Major trading partners include the United States, Japan, West Germany, France, and the United Kingdom. The wholesale price index was calculated by a geometric average of those of these five nations using their trade volumes with Korea as weights.

[d]1985 is taken as the base year.

while the nominal exchange rate itself changed from 130 won per U.S. dollar in 1962 to 731 won per U.S. dollar in 1982, almost 600 percent!

Second, adjustments in nominal exchange rates, however, have not always been successful in maintaining stable real exchange rates over time. For instance, until 1973, in the early period of outward orientation, nominal exchange rates had been depreciating fast enough to more than offset inflation differentials between home and abroad, raising the real effective exchange for exports from 762.3 won per U.S. dollar in 1962 to 912.0 won per U.S. dollar in 1973. In 1974, however, the nominal exchange rate was pegged at 484 won per U.S. dollar and remained unchanged through 1979, mainly to dampen domestic inflationary pressure built up by the first oil shock as well as by the excessive investment drive in the HCIs. As a result, the real effective exchange rate for exports again fell back to 746.6 won per U.S. dollar by 1979, and it fell further to a low of 737.7 won per U.S. dollar by 1982 in the wake of the second oil shock. However, it gradually rose to 910.0 won per U.S. dollar by 1986, mainly due to the continuous depreciation of the nominal exchange rate and the slowdown in domestic inflation rates.

Finally, table 6.4 presents estimates of effective exchange rates for imports, which were obtained by adding actual tariffs collected per dollar of imports to the official exchange rates. These estimates, however, do not include the price effects of QRs applied on imports and hence underestimate the nominal protection given to import substitution, especially during the 1960s and 1970s, when the use of QRs was most pronounced. Given this deficiency, the last column of table 6.4 provides the export-import effective exchange rate ratio. As can be seen, it turns out to be very close to one in most years, except for 1963. This suggests that trade incentives as a whole have acted together so as to roughly maintain neutrality between exports and import substitution in Korea. Since 1982, however, import substitution has been slightly favored over exportation—export incentives had been almost completely removed by then.

In order to show the importance of real effective exchange rates in determining exporters' international competitiveness, the movement of real effective exchange rates was plotted against growth rates of real exports for the 1962–91 period, and the result is shown in figure 6.1. As can be seen from the figure, the two variables move together closely, with a correlation coefficient of 0.34. There are, of course, anomalous years in which the two variables moved in opposite directions, such as 1964, 1980, and 1985, and most notably 1975, perhaps as an aftermath to the first oil shock. But more conspicuous is the dismal export performance during 1989–91 with negative real growth rates, which was too bleak to ascribe to the appreciation in real exchange rates alone. This may be explained, however, by the dramatic increase in nominal wages, following the explosive labor disputes, experienced by the Korean economy since 1987. For instance, between 1987 and 1991, nominal wages in the manufacturing sector more than doubled, while labor productivity rose only 28 percent. At the same time, the nominal exchange rate fell from 822.5 to 733.3 won

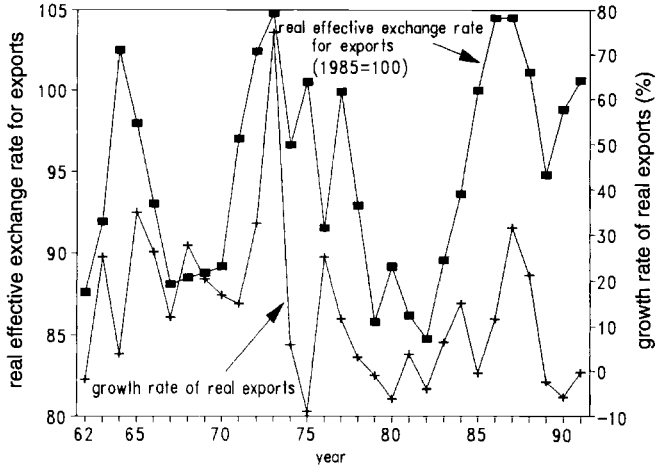


**Fig. 6.1 Relation between real effective exchange rates for exports and growth rates of real exports**

per U.S. dollar in the same period. As a result, the unit labor cost in terms of U.S. dollars rose by 88 percent in the short span of 1987–91, which undoubtedly undermined Korean exporters' international competitiveness. These findings vividly illustrate the importance not only of exchange rate management but also of labor relations management in order to ensure that domestic exporters can exploit export opportunities up to their potential.

It has already been argued that Korea's economic growth has largely depended on the rapid growth of exports under outward orientation. To show this more explicitly, figure 6.2 presents a regression line obtained by regressing growth rates of real GNP against growth rates of real exports, using the data set over the 1962–91 period. As expected, the result shows a strong positive relation between the two variables, with a correlation coefficient of 0.49 and a $R^2$ value of 0.24 for the regression equation.

This result is not special to Korea, however. Numerous empirical studies on the relation between the degree of openness, export growth, and economic performance have all produced evidence that there are important links between them.[8] Yet these studies provide little guidance as to the exact routes through which and the extent to which trade policies, or alternatively export expansion, might have affected overall economic growth. This is, perhaps, the reason any attempt to investigate causal links between them may be worthwhile. In the remainder of this section, the allocative efficiency of resources and the sources of economic growth will be briefly examined in relation to trade policies undertaken in Korea.

8. See Edwards (1989) and Roubini and Sala-i-Martin (1991) for a comprehensive survey of studies on the relation between openness and growth.

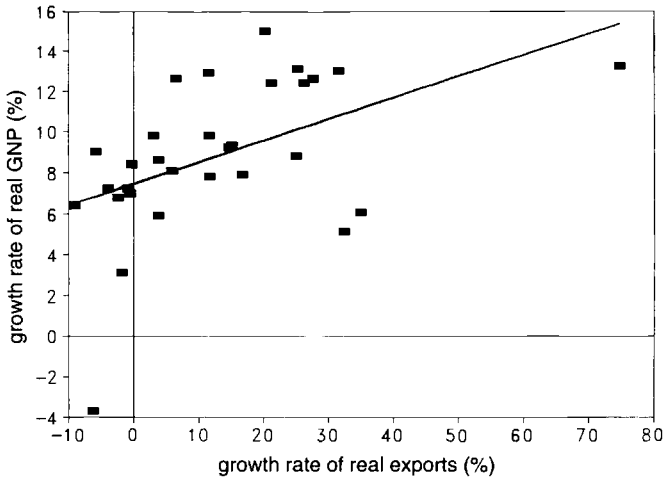


**Fig. 6.2 Relation between growth rates of real exports and real GNP**

### 6.3.2 Trade Incentives and the Allocative Efficiency of Resources

Trade reform is mostly undertaken to reduce distortions in the structure of relative prices and thereby to direct scarce resources to sectors that can make the best use of them. In that regard, trade reform has its primary impact on the allocative efficiency of resources, rather than on the rate of resource accumulation.

In any trade reform, the most common course of action includes the simplification of import procedures, the reduction or elimination of import quotas, and the rationalization of the tariff structure along with currency devaluations. However, the trade reform undertaken in Korea in the early 1960s indicates that the shift from inward to outward orientation was not achieved by liberalizing imports outright with currency adjustments (a "free trade" route to outward orientation), but rather by introducing a strong set of export incentives to offset antiexport bias created by import barriers (a "subsidy" route to outward orientation). So until very recently Korea had a very complex system of trade incentives, in which export activities were not only allowed to operate under a free trade regime but were subsidized in addition, while import substitution activities remained under various forms of protection.

It is apparent that the export subsidy route tends to be inferior to the free trade route for a number of reasons. Not only does the former involve substantial administrative costs, but export subsidies and import controls are rarely applied in an industry-neutral manner. Furthermore, QRs of any kind tend to generate large premia which will trigger rent seeking. Many able entrepreneurs may devote much of their energy and resources to privately profitable, but socially wasteful, rent seeking.

There were a few reasons, however, why Korea chose the export subsidy

**Table 6.5** **Relative Incentive Rates on Exports and Domestic Sales in Korea, 1968 and 1978 (%)**

| Industry | Legal Tariff Rate | | NPR | | EPS for Domestic Sales | | ESR for Export Sales |
|---|---|---|---|---|---|---|---|
| | 1968 | 1978 | 1968 | 1978 | 1968 | 1978 | 1978 |
| I. Agriculture | 36.5 | 26.7 | 17.0 | 55.2 | 17.9 | 73.4 | 15.1 |
| II. Mining and energy | 12.5 | 6.3 | 8.9 | −19.8 | 3.5 | −23.8 | 10.6 |
| Primary production, total | 35.1 | 24.2 | 16.5 | 45.8 | 17.1 | 58.7 | 14.5 |
| III. Processed food | 61.5 | 41.1 | 2.9 | 39.8 | −14.2 | −16.0 | 16.7 |
| IV. Beverages and tobacco | 140.7 | 133.2 | 2.2 | 20.2 | −15.5 | 22.8 | 10.8 |
| V. Construction materials | 32.2 | 29.5 | 3.9 | −7.2 | −8.8 | −11.9 | 15.1 |
| VI-A. Intermediate products I[a] | 36.6 | 23.2 | 2.8 | −2.4 | −18.8 | −27.4 | 17.1 |
| VI-B. Intermediate products II[a] | 58.7 | 34.7 | 21.0 | 1.3 | 17.4 | 5.3 | 17.6 |
| VII. Nondurable consumer goods | 92.3 | 49.3 | 11.7 | 14.9 | −8.0 | 21.9 | 12.1 |
| VIII. Consumer durables | 98.3 | 44.3 | 38.5 | 40.2 | 39.8 | 81.0 | 23.1 |
| IX. Machinery | 52.6 | 27.5 | 29.9 | 17.8 | 29.5 | 33.2 | 16.9 |
| X. Transport equipment | 62.4 | 57.0 | 54.9 | 30.9 | 83.2 | 73.8 | 16.9 |
| Manufacturing, total | 67.6 | 41.4 | 12.2 | 10.0 | −1.1 | 3.7 | 15.8 |
| All industries | 54.3 | 37.3 | 14.0 | 17.8 | 9.0 | 24.1 | 13.9 |

*Source:* Nam (1981b, 201, and 206).

[a]Intermediate products I includes products in an earlier stage of fabrication than intermediate products II.

route over the free trade route. First, rapid import liberalization was not feasible, because of political pressure from groups with a vested interest in import protection. Second, the currency devaluation necessary to accompany the reduction in import barriers was often feared as a source of inflationary pressure. Third, import taxes constituted a major source of government revenue. Finally, policymakers were guided by the erroneous belief that both exports and import substitution can be better promoted under the export subsidy than under the free trade route.

It is not possible to quantify the precise impact of Korea's trade reforms on the allocative efficiency of resources, but it is possible to conjecture how resource allocation might have been affected by those trade reforms by examining the resulting structure of protection from the trade incentive system as a whole. If trade incentives affect prices of output or inputs, the best measure of incentives confronting domestic producers is effective protection rates (EPRs), but if trade incentives take the form of direct or indirect subsidies to a specific activity, the best measure of incentives is effective subsidy rates (ESRs). Both EPRs and ESRs measure the degree of protection or subsidy afforded to value-adding processes. These measures also provide an indication of the degree of efficiency gains in resource allocation attainable by the rationalization of the trade incentive system as a whole.

Table 6.5 gives estimates of nominal protection rates (NPRs), which are based on price differentials between home and world markets, and EPRs for

domestic sales by industry group for 1978 in comparison with those estimated for 1968. Table 6.5 also provides estimates for ESRs granted to export sales in contrast to EPRs given to domestic sales, for 1978. A number of interesting features can be noted from the table. First, after a bold and significant liberalization effort in the mid-1960s, little progress seems to have been made in liberalizing import controls during the 1968–78 period. Most conspicuous is that protection for agriculture rose to a very high level, with a EPR of 73.4 percent in 1978 compared to 17.9 percent in 1968. The strong protection of agriculture may have been intended partly to ensure security of food supplies but was instituted mainly to support farm incomes, and this was pursued through a high-rice-price policy introduced in the late 1960s. This high-rice-price policy persisted throughout the 1980s, making Korea more like Japan and EC countries than other developing countries, as far as protection of agriculture is concerned.

Second, the average protection rates on manufacturing remained relatively low compared to those in other developing countries during 1968–78 (see Balassa 1971, 1982). The average NPRs declined slightly from 12.2 to 10.0 percent in the 1968–78 period for the manufacturing sector, whereas the average EPRs rose slightly from −1.1 to 3.7 percent in the same period. The main feature, however, is not the low average value of NPRs or EPRs but their dispersion across industries, resulting primarily from QRs. Furthermore, the dispersion in EPRs was even wider in 1978 than in 1968, with some high positive rates and some negative rates, suggesting worsening resource allocation effects of the protection structure. The high protection for consumer durables, machinery, and transport equipment and the negative protection for construction materials and intermediate products I are particularly noticeable. This is not too surprising since HCI products like electronics, heavy machines, and cars were actively promoted in the 1970s, while raw materials like cement, steel, and petroleum products were under complete price control at the time (see Nam 1981b).

In view of Korea's structure of protection, therefore, one may be tempted to conclude that Korea's incentive system certainly failed to bring the same resource allocation result as free trade would have achieved. Indeed, this is true, but the loss due to departures from the free trade result may not have been very significant, mainly because, as of 1978, Korea's trade incentive system as a whole clearly maintained its bias toward exporting (as opposed to import substitution) in most industries, with the notable exception of agriculture.[9]

Korea's export subsidy policy, however, had become increasingly difficult to

9. Even in agriculture, despite high protection, employment changed very little for 1962–81, but declined rapidly at an annual rate of 4.3 percent for 1981–91. High protection for agriculture seems, therefore, to have had the side effect of slowing down the labor migration from rural to urban, or from farm to nonfarm, sectors of the economy, thereby reducing pressure from "too" rapid urbanization or urban unemployment, at least until the 1970s.

maintain by the early 1980s for a few reasons. One is that the export subsidies through preferential loans at below-market rates became increasingly burdensome to Korea's monetary authority due to an ever-increasing export volume. Another is that subsidies by developing countries in general have increasingly become subject to countervailing duties by industrial countries, notably the United States.[10] At the same time, Korea's policymakers realized that the high protection given to HCI products in domestic markets did not guarantee their competitiveness in international markets. For these reasons, most export subsidy measures were removed in Korea by the early 1980s. At the same time, import liberalization was aggressively pursued throughout the 1980s so that the export subsidy route could be successfully replaced by a free trade route. Allocative efficiency of resources would have been improved accordingly.

### 6.3.3 Sources of Growth in an Outward-oriented Economy

It has long been thought that outward-oriented trade reform has its positive impact on growth through a number of channels other than improved resource allocation—more in line with one's comparative advantage. Among the most frequently cited channels are: the ability to exploit scale economies in production; easier access to better technologies, intermediate inputs, and capital goods; increased efforts toward labor training and research and development, to meet greater competition at home and abroad; and a better chance to have a general policy environment especially conducive to growth.[11]

It has not been possible, however, to measure the absolute or relative importance of these channels as contributing factors to growth. Not only is it difficult to single out the effect of trade policy among a myriad of other policy actions that could have a bearing on these channels, but growth itself can be affected by many factors other than those listed above. Thus, an attempt will be made below to examine the sources of growth estimated for Korea and to explore, though mostly at a conjectural level, their possible links to trade reforms undertaken in Korea.

Table 6.6 provides estimates of the sources of growth, based on Denison's (1967, 1979) approach to growth accounting, for Korea for three subperiods between 1963 and 1988. Table 6.6 also reports estimates of the sources of growth for Japan, West Germany, and the United States for comparison. A number of salient features can be identified from the table.

First, more than half of Korea's output growth is explained by increases in factor inputs—labor and capital—of which the contribution of labor has been persistently greater than that of capital in all three subperiods, accounting for

10. E.g., Korea became one of the four developing countries that were most frequently countervailed against by the United States in the early 1980s. See Nam (1987, 193).

11. For excellent reviews on this subject, see Krueger (1980, 1985), World Bank (1987), and Dornbusch (1992).

**Table 6.6** **Sources of Economic Growth in Korea, 1963–88**

| Items | Korea | | | Japan | West Germany | United States |
|---|---|---|---|---|---|---|
| | 1963–72 | 1972–82 | 1979–88 | 1953–71 | 1950–62 | 1948–73 |
| Real national income (growth rate, %) | 8.2 | 8.1 | 8.0 | 8.8 | 6.3 | 3.8 |
| Total factor input | 4.2 | 5.6 | 4.8 | 4.0 | 2.8 | 2.1 |
| Labor | 3.1 | 3.5 | 2.9 | 1.9 | 1.4 | 1.4 |
| Capital | 1.1 | 2.1 | 1.9 | 2.1 | 1.4 | 0.7 |
| Output per unit of input | 4.0 | 2.5 | 3.2 | 4.9 | 3.5 | 1.7 |
| Improved resource allocation | 0.6 | 0.7 | 0.6 | 1.0 | 1.0 | 0.3 |
| Economies of scale | 1.5 | 1.5 | 1.6 | 1.9 | 1.6 | 0.3 |
| Advances in knowledge and n.e.c.[a] | 1.9 | 0.3 | 1.0 | 2.0 | 0.9 | 1.1 |

*Sources:* Kim and Park (1985, 61–62) for Korea (1963–72 and 1972–82); Hong (1991, 27) for Korea (1979–88); Denison and Chung (1976, 42–43) for Japan and West Germany; Denison (1979, 104) for the United States.

[a]n.e.c. denotes "not elsewhere classified."

more than 30 percent of Korea's growth.[12] The high level of labor's contribution to growth should have been affected by the trade reforms undertaken in Korea in two major ways. One is that the rapid expansion of manufactured exports and the concurrent expansion of the service sector has become a major source of labor absorption in Korea ever since outward-oriented trade reform was undertaken in the early 1960s, reducing first the hidden and unemployed labor force in the rural sector and then the labor force employed by the agricultural sector itself (see table 6.7). The other is that exports became more labor intensive in production and in commodity composition in order to accommodate the shift in comparative advantage with outward-oriented trade reform in the early 1960s. For instance, physical capital intensity declined for exports, while it increased for competitive import replacements for the 1960–66 period (see table 6.8). As a result, the physical capital intensity of competitive import replacements was higher than that of exports by 56 percent in 1966, a sharp increase from 18 percent in 1960. The differential remained roughly the same through 1985. This suggests that, if the rate of capital accumulation was the binding factor on employment, additional investment in the export sector would have created roughly 50 percent more employment than would the same additional investment in the import substitution sector. On balance, it seems

12. These results contrast with the experiences of Japan and West Germany in that more than half of their growth is due to increases in total factor productivity and the contribution of capital is greater than or equal to that of labor.

**Table 6.7** **Employment Growth in Korea, 1962–91**

| Sector | Employment (thousand persons) | | | | Average Annual Growth rate (%) | | | |
|---|---|---|---|---|---|---|---|---|
| | 1962 | 1971 | 1981 | 1991 | 1962–71 | 1971–81 | 1981–91 | 1962–91 |
| Agriculture | 4,837 | 4,797 | 4,801 | 3,103 | −0.1 | 0.0 | −4.3 | −1.5 |
| Manufacturing | 667 | 1,413 | 2,983 | 5,005 | 8.7 | 7.8 | 5.3 | 7.2 |
| Services and social overhead | 2,158 | 3,737 | 6,239 | 10,468 | 6.3 | 5.3 | 5.3 | 5.6 |
| Total | 7,662 | 9,946 | 14,023 | 18,576 | 2.9 | 3.5 | 2.8 | 3.1 |

*Source:* Bank of Korea, *Economic Statistics Yearbook* (Seoul, various years).

**Table 6.8** **Factor Intensity in Korean Manufacturing, 1960–85**

| Sector | Capital-Labor ratio (thousand U.S. $ per worker)[a] | | | |
|---|---|---|---|---|
| | 1960 | 1966 | 1978 | 1985 |
| Exports (A) | 3.3 | 2.7 | 6.5 | 11.8 |
| Competitive import replacements (B) | 3.9 | 4.2 | 9.5 | 17.3 |
| (B)/(A) | 1.18 | 1.56 | 1.46 | 1.47 |

*Source:* Hong (1989, 100).

[a]In terms of 1985 constant U.S. dollars.

clear that the outward-oriented trade reforms undertaken in Korea contributed significantly to expanding employment opportunities in Korea.

Second, another interesting point that can be observed from table 6.6 is that the contribution of capital accumulation to growth was especially low during the 1960s. Of course, this was largely due to a low level of domestic investment in that period. This low domestic investment would have been even lower, however, had foreign savings not been available. As was already seen in table 6.3, gross domestic investment measured only 12.8 percent of GNP in 1962, of which more than 70 percent was financed by foreign borrowing. After then, domestic investment grew very rapidly, with rising domestic income and savings, reaching 25.4 percent of GNP in 1971 and 39.4 percent in 1991. During the 1970s, however, about 20–30 percent of Korean domestic investment was still financed by foreign borrowing. To be sure, this large amount of foreign borrowing would not have been possible had export earnings not been growing quickly under the outward-oriented trade regime.

Third, table 6.6 shows that slightly less than half of Korean output growth was due to growth of total factor productivity (output per unit of input). Three major sources for the growth of total factor productivity have been considered and estimated for their respective contributions to growth: they include im-

proved resource allocation, economies of scale, and advances in knowledge. According to Kim and Park (1985, 58), the contribution of improved resource allocation came primarily from the shift of labor from low-productivity agriculture to high-productivity nonagricultural sectors. The contribution of improved resource allocation to growth has been very steady over the three subperiods between 1963 and 1988, accounting for about 0.7 percentage points of the output growth rate, or about 10 percent of total output growth. Needless to say, labor migration from agriculture to nonagricultural sectors was greatly promoted by the export-promoting trade policy and the concomitant rapid growth of labor-intensive manufactured exports in Korea.

Fourth, according to the estimates shown in table 6.6, the contribution of economies of scale to growth has also been very significant and steady over the three subperiods, accounting for about 1.5 percentage points of output growth rate, or about 20 percent of total output growth. This figure appears to be, however, somewhat less than those experienced by Japan and West Germany during the postwar period. This may be partly due to the high protection given to some import substitution activities in Korea, though exports have been fully liberalized. But the high protection of domestic markets may not have been too inimical to reaping scale economies since protection was often provided to those industries that risked a loss in their export markets.

Finally, a third source of growth of total factor productivity, classified as "advances in knowledge" in table 6.6, represents a residual which is obtained by subtracting the effects of improved resource allocation and economies of scale from the growth rate of total factor productivity. According to Kim and Park (1985, 59), the contribution of this third source of growth comes mostly from improved production technique, distribution, and business organization that occurred in a particular period. The estimates of the contribution of this source of growth show that it has been erratic over the three subperiods between 1963 and 1988. Its highest contribution was obtained during the early period of outward orientation 1963–72, with 1.9 percentage points of the output growth rate, explaining nearly a quarter of output growth in that period. But it fell to a low of 0.3 percentage points of the output growth rate, explaining less than 5 percent of output growth during 1972–82. Of course, this period includes two oil shocks, and a crop failure in 1980, but the massive investment drive in the HCIs may have also contributed to the poor productivity growth obtained in that period.

In conclusion, trade reforms undertaken in Korea for the past three decades have not only led to static efficiency gains in resource allocation but have also generated dynamic growth effects through a number of channels, though it is not possible to single out their effects in quantitative terms as a major factor in economic growth.

## 6.4 Concluding Remarks

Several policy lessons can be drawn from this study of Korea's trade and exchange rate policies and the role they have played in Korea's growth over the 1962–91 period.

First, an outward-oriented growth strategy was successfully implemented in Korea by an export subsidy rather than a free trade route until the early 1980s. Despite somewhat chaotic government interventions both on the export and on the import substitution side, the net effects largely offset each other, resulting in a good deal less discrimination—or more neutrality—between import substitution and export production than in many other developing countries.

However, other developing countries thinking of emulating Korea's experience with the subsidy route to outward orientation need to be cautioned. For one thing, this route was feasible in Korea mainly because protection of the home market was relatively low to begin with, so that antiexport bias was easily offset by export subsidies.[13] For another, it is hard to avoid economic losses due to distortions in factor and in output markets under the export subsidy route. For example, export subsidies through policy loans at below-market interest rates retarded the financial sector, and the promotion of the HCIs by the government proved very costly in Korea. Also, the wide dispersion of EPRs across industries observed in Korea indicates that further improvement in the allocative efficiency of resources can be achieved. Furthermore, export subsidies combined with import barriers increasingly risk antidumping or countervailing actions by some industrial countries. For these reasons, Korea, too, has shifted from an export subsidy to a free trade route to outward orientation since the early 1980s.

Second, establishing a neutral incentive system between exports and import substitution constitutes an important condition for an outward-oriented growth strategy, but this alone does not guarantee rapid export growth. Korea's experience vividly illustrates that it is vitally important to maintain competitive real exchange rates to secure sustained export growth. In Korea, the real exchange rate for exports (including export subsidies) has been kept very stable over the 1962–91 period, with the exception of a few years between the late 1970s and the early 1980s. In the early 1960s, export subsidies played an important role in keeping the real exchange rate for exports stable, amounting to, for example, as much as 37 percent of the official exchange rate in 1963. But beginning with the 1964 devaluation of the won against the dollar by nearly 100 percent, the government placed increasing reliance on adjustments of nominal exchange rates and less on export subsidies to keep the real exchange rate for exports stable over time, and by 1982 the export subsidies were entirely removed.

Third, a critical precondition for fast growth is a high level of domestic investment. In Korea, foreign borrowing played an important role in financing

13. E.g., large export subsidies did not suffice to offset the high protection of import substitution in countries like Brazil and Mexico.

domestic investment, especially in the early years of outward-oriented growth with very low rates of domestic savings. During the 1960s, for instance, nearly half of gross domestic investment was financed by foreign borrowing, and about a quarter of it was foreign funded in the 1970s, when domestic saving rates averaged more than 20 percent of GNP. The government can be largely credited for this. Not only was mobilizing foreign borrowing a major component of each of Korea's successive Five-Year Economic Plans since 1962, but the government extended its repayment guarantees to loans by the private sector to stimulate foreign borrowing. However, without the rapid growth of export earnings, such a large inflow of foreign capital would not have been possible.

Finally, in order to translate outward-oriented trade reforms effectively into rapid growth of exports and income, it is imperative to have all essential infrastructure in place. Education, transportation, and communication, the maintenance of macroeconomic stability, and a well-defined legal system are, for example, some of the important services needed for efficient market processes. Although the Korean government fumbled in some areas, such as the promotion of the HCIs and the control of the financial sector, it was a relatively efficient provider of these essential services. The successive Five-Year Economic Plans were instrumental in delivering essential infrastructure in Korea.

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## Comment

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Chong-Hyun Nam's interesting paper has an ambitious objective. He reviews Korea's four decades of trade and exchange rate policies, assesses their role in Korea's rapid growth, and finally draws four lessons for other developing countries.

His policy review presents a comprehensive and interesting picture of the policy structure supporting Korea's outward growth strategy. Some of his material is not readily available outside Korea.

I also agree with most of the lessons he draws for other developing countries, such as his emphasis on the importance of maintaining a competitive exchange rate and investing in infrastructure. However, I would like to add some qualifications to one of his lessons: Nam has expressed skepticism about the desir-

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ability and feasibility of other developing countries' following Korea's lead in an outward-oriented growth strategy via export subsidy. This conclusion does not follow very well from the body of his paper. Furthermore, the outward-oriented strategy via export subsidy is both feasible and, under certain circumstances, desirable for other developing countries.

That pursuing an outward-oriented strategy via export subsidy to achieve high growth is feasible can be seen from the recent example of Chinese growth. Moving away from a rigid version of import substitution, China has since 1980 embarked on an impressive path of opening up to the outside world. Export subsidies, explicitly or implicitly, have been extensively used in order to spur export growth. Over the 1980s, the average annual growth rate of Chinese external trade was above 15 percent, three times higher than the growth in world trade. In some sense, export subsidy may be the way for a large country to rapidly increase its exports in a short time, although the threat of foreign anti-dumping duties places some limit on export subsidy.

As for desirability, one can certainly find an efficiency-based justification for export subsidy. For example, if one believes in the existence of positive externality from export activity to the rest of the economy, then one would favor policies that encourage exports. Of course, this does not imply that *any* kind of export subsidy is necessarily beneficial. If the nature of the externality is such that the larger the total exports the better for the economy, then one would want policies that do not discriminate among various export activities. An example of this policy is an artificially undervalued domestic currency. In Korea's case, the government's policy in the 1960s and early 1970s of rewarding firms based on their export volume is close to a nondiscriminatory one. Its drive to support the heavy and chemical industries during 1973–79 involved subsidies skewed toward a particular industry and later proved to be a mistake.

I would like to suggest that, even in the absence of positive spillover from export activity, there is often a political economy argument for export subsidy for countries that are trying to get out of an import substitution trap. That is, free trade may be politically unattainable, but export subsidy (together with preservation of some old import protection) is attainable. In fact, Korea's case is illuminating on this point. As Nam points out in this paper, one important reason that Korea chose the export subsidy route over the free trade route was "political pressure from groups with a vested interest in import protection." As Nam's review of Korea's policies indicates, various policies of import protection took a long time (two decades) to phase out even though Korea is regarded as a highly outward-oriented economy. I would like to elaborate on Nam's observation in a way that may or may not suit his taste.

Fernandez and Rodrik (1991) have taught us how, if an economy is initially dominated by import protection, free trade, though it may be able to muster a majority's support if ever implemented, can be rejected in a political process. Because no one knows for sure how costly it will be for her to switch jobs if

free trade is indeed implemented, the ex post gainers do not realize they are gainers ex ante. Hence, import protection may be politically preferred to free trade even though a majority may benefit from free trade.

Suppose the costs of switching jobs are uneven among people in the protected sectors but are known to everyone. Would export subsidy with some import protection be preferred to pure import protection? The answer is yes if there are enough people in the protected sector who have a relatively low cost of switching jobs. In this case, export subsidy operates like job-switching assistance or a job-training fee that will greatly relieve the reservations that the low switching cost people have about leaving the inefficient but protected industries. Because they benefit as consumers in a less distorted economy and now need not worry about income loss, they will side with people in the efficient export industries to move away from pure import protection toward export promotion. If the number of low switching cost people plus those originally in the export industries is large enough, they can exert strong enough pressure to materialize a shift in the trade regime. Therefore, although free trade is difficult to attain directly, export promotion can nevertheless be preferable to the original import protection. A formalization of the above story can be found in Wei (1993).

To summarize, export subsidy is still feasible and can be desirable by both efficiency and political economy arguments.

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