

Finance and Growth of the Korean Economy from 1960 to 2004

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In this paper I overview the relation between finance and growth of the Korean economy from the year of 1960 to that of 2004 through the literature survey. Financial regimes of liberalization and those of repressions alternated each other during this period. However, economic growth continued independently of the various financial regimes. Financial deepening, as well as an increase in the variety of financial instruments, accompanied an increase in *per capita* income. In particular, it is observed that a peak growth rate of the trade balance lagged behind eight to ten years that of investments. In the interval of these two peaks occurred the financial distresses. Possible scenarios for investment financing role of exports are suggested.

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I. Introduction

In 1961, at the start of South Korea's modern economic development, the country had virtually no capital stock. Railroads, plants, dams, and factories left by the Japanese had been destroyed during the Korean War. The majority of fertilizer plants, electric power plants, and mining operations were situated in North Korea, reflecting both natural resource distributions and Japanese investments. Industry in South Korea, in contrast, was focused on agricultural crops and light manufacturing enterprises such as flour

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mills, breweries, and textile factories. Most of these enterprises, other than public electrical and transportation utilities, were later auctioned to the public. *Per capita* income in 1961 was only eighty-two U.S. dollars. However, by 1995 it had increased to ten thousand and seventy-six U.S. dollars, and South Korea had joined the ranks of upper-middle income countries.

Recent studies of rapid growth performances in East Asia, including that of South Korea, indicate that capital accumulation was one of the greatest contributing factors to regional growth (Kim and Lau 1994; Young 1995). In 1961 *per capita* capital stock in the South Korean economy was two hundred and eighty U.S. dollars, a figure that increased to fifty-two thousand and seven hundred U.S. dollars by 1995.¹ These data suggest that the Korean economy was capable of sustaining increased investments throughout the period 1960-2004. In a developing economy, the initial savings rate is usually very low because of low income. How, then, were investments financed over such a prolonged period of time? Foreign aid or loans are primary sources of investment financing for developing economies during their initial development periods. However, financing through foreign aid or foreign loans without the ability to repay the principal or service debts is ultimately limiting. An alternative means of financing is that of exports and of foreign direct investments.

Mountainous South Korea is one of the most densely populated areas in the world. Arable land *per capita* in 1970 was 0.18 acres, hindering the export of land-intensive products. Some marine products such as agar-agar and seaweed were exported, mainly to Japan, in the 1950s. In an economy with few natural resources, how did exports become the best alternative for financing industrialization? Labor, *i.e.*, human capital, was relatively abundant as opposed to capital and land in the 1960s. Exports of labor-intensive products thus became the natural means of financing industrialization. As this paper will describe, South Korea's abundant labor compensated for a lack of natural resources and allowed sustained industrial financing that, in turn, helped increase labor productivity and growth in the economy. In contrast, economies tied to abundant

¹These figures were computed from Pyo's (2002) estimate of capital stock. Capital stocks comprise residential and non-residential buildings, transport and machinery equipment, and other construction equipment.

natural resources can ultimately become limited by land-intensive exports. Investment in human capital through education and on-the-job training raises standards of marginal productivity and prevents labor scarcity, as measured by labor efficiency units. A lack of natural resources, which could have been a major disadvantage to this developing economy, became an advantage here in that it led South Korea to invest in industrialization.

As early as 1977 Ranis suggests an export-substitution policy in his emphasis on the financial aspects of exports. In a similar vein Findlay (1984) notes that the 'export-led' growth model helps alleviate foreign exchange constraints in a developing economy. An outward-looking export-promotion policy has several advantages over an inward-looking import-substitution policy. First, exports generally remove foreign exchange constraints and facilitate imports of capital goods and intermediates. Second, an export economy spurs entrepreneurialism within the domestic economy through competition in the international market. In this sense, an export-promotion strategy is market conforming in comparison to an import-substitution policy. More importantly, export promotion alleviates foreign exchange bottlenecks for imports.

According to Ranis a developing economy passes through two stages of development. The first is a primary import-substitution stage, based on import-substitution of light consumer goods by domestic production. The developing economy then reaches the secondary import-substitution stage at which import substitution of capital goods and other consumer durable goods is attained. At this stage, Ranis further categorized developing economies into two groups of 'deviant' and 'non-deviant'. The deviant category would make an effort to shift from traditional land-based exports to non-traditional labor-based exports. The non-deviant would move toward a capital-intensive growth path, pursuing further secondary import substitution policies and neglecting productivity in a sector with a comparative advantage. Ranis placed Taiwan and Japan in the deviant group, while the Philippines and Latin America were included in the non-deviant group.

The advanced knowledge and technologies embodied in imported capital goods also spillover onto a catch-up economy such as South Korea's, making sustained growth possible. This paper examines the growth of the South Korean economy from 1960 to 2004 related to its financial aspects with a focus on investment financing role of

exports and its impact.

This paper is organized as follows. Each section covers a decade starting from the period of nineteen-sixties. Section II describes the export promotion policy of 1960s that was associated with the five-year economic plans. Section III outlines the heavy chemical industrial (HCI) policy of the third five-year economic plan of 1970s and reviews industrial coordination policies of 1980s. Section IV summarizes the background to the 1997 financial crisis and post-crisis financial turbulence. Section V discusses investment financing role of exports in relation to Ranis's export-substitution policy. Section VI concludes this paper.

II. Export Promotion Policy of the 1960s

After liberation from Japanese occupation in 1945, the Korean government assumed ownership of all Japanese-owned enterprises related to the national infrastructure such as railroads and electric and telecommunications utilities. Following the military coup of 1961, the government developed successive five-year plans focused on self-sustaining economic development and the expansion of basic industries and infrastructure.

The first and second five-year economic plans of 1962-1971 focused on establishing enterprises to supply basic industrial materials. The state-owned Korea Oil Corporation was established in 1962 to help meet the demands of transportation and synthetic fiber manufacturing. The Korea Oil Corporation later merged into the SK Group. Pohang Iron and Steel Company (POSCO), established in 1968, supplied the other basic material for future industrialization, *i.e.*, steel. Agriculture played a key role in the South Korean economy at the start of the 1960s, accounting for forty percent of the GDP. To meet agricultural demands, the Korea Fertilizer Corporation was established in 1967.²

How were such huge industrial projects financed at the beginning of industrialization? Traditional market-based financial organizations, including the *kye*, *mujin*, and *kaekchu*, played important roles. The most popular of these organizations among the public during the 1960s was the *kye*. It pooled resources among members and

²The company was founded by Samsung and then donated to the government after an incident involving illegal saccharine imports.

provided loans to members on either a pre-ordered sequence or by a lottery. The most influential of these market-based financial organizations was the *mujin*, a type of mutual savings and loan institution that was later reorganized into mutual savings and finance companies. Lastly, the *kaekchu* provided short-term financing to fishing households (Cole and Park 1983, pp. 120-1). While these institutions were too small to finance investments in long-term capital equipment, they could finance short-term capital needs.

Government savings were also insufficient to finance investment projects. However, Brown (1973) has suggested that the effective management of government enterprises with respect to pricing policies contributed to investment financing in that government enterprises did not crowd out the private sector.

Because domestic savings were so low, foreign savings provided a major source of investment. From 1962 to 1966, investment funding annually averaged fourteen point five percent of the GNP, and sixty percent of investments came from foreign funds. The remaining forty percent of investment was provided by domestic funds.³ During the period of 1960s, twenty-six U.S. billion dollars in foreign capital flowed into South Korea, of which approximately ten U.S. billion dollars came through official government loans, with the rest through commercial loans.⁴

The military government that had taken control by *coup d'etat* in 1961 promoted an economic developmental regime, in part, to solidify its own legitimacy. One of the first acts of the regime was to nationalize commercial banks. Currency denominations were also altered, and units were changed from hwan to won, with a unit of won equaling ten units of the former hwan. This change was intended to mobilize domestic savings by forcing citizens to reveal any hidden savings. Further, the government issued loans (called 'policy loans') to supplement industrial targets.

During this decade, the nation's financial infrastructure developed in parallel with the establishment of basic industries. Special purpose banks such as the Korea Development Bank (KDB, established in 1954) provided channels for loans to new corporations. Owing to its specialized purpose, the KDB did not accept deposits as did normal commercial banks. Other special purpose

³ As computed from Table 6 of Brown (1973, p. 58)

⁴ As computed from Table 24 of Brown (1973, p. 215)

banks such as the National Agricultural Cooperative Federation (NACF), Medium Industry Bank (MIB), Central Federation of Fisheries Cooperatives (CFFC), and Citizens' National Bank were also established to support farmers, fishing industries, small- and medium-sized firms, and housing developers. The Korea Housing Bank was established in 1967 to finance housing for low-income families. In the same year, the Korea Development Finance Corporation (KDFC) was launched to facilitate the creation of private enterprises by providing medium- and long-term financing. Another special bank, introduced in 1967, was the Korea Exchange Bank (KEB), which dealt with foreign exchange.

The KDB and other special purpose banks provided a major proportion of loans in the 1960s. In 1964, the KDB issued seventy-three percent of loans in South Korea; commercial banks issued the remaining thirty-seven percent. This structure of finance indicates that financial market intermediation played no role in the 1960s. The government retained complete control and extended the role of the KDB, allowing it to borrow loans from abroad and to guarantee foreign loans provided to domestic firms.

In a developing economy poorly endowed in natural resources, exports of manufactured goods are critical sources of funds for investment financing. In the latter part of the 1960s, during the launch of the second five-year plan, the government placed export promotion as its first priority. A package of policy tools including preferential taxes and credits, as well as an escalated tariff structure for imports and intermediates, was applied to encourage exports. The Korea Trade-Investment Promotion Agency (KOTRA), established in 1962, was charged with promoting South Korean exports in foreign markets.

The foreign exchange rate before 1960 was overvalued in the government's attempt to increase the value of imported goods in relation to the domestic currency value of foreign aid counterpart accounts.⁵ In just one year, from 1960 to 1961, the exchange rate doubled from sixty-five won to one hundred thirty won per U.S. dollar. The rate then remained stable until 1963.

Thus, the Korean financial market in the 1960s can be

⁵ The government's counterpart fund related to special accounts for foreign aid. The over-valued Korean currency before 1960s is one of an interesting example, illustrating an under-effected case of transfer payments.

characterized as fragmented and unorganized, as is typical of underdeveloped financial markets (McKinnon 1973). The role of commercial banks as financial intermediaries was absent during this period, which was dominated instead by government industrial policy. Commercial banks did, however, help to carry out government industrial policy. Cole and Park (1983, p. 61) described this financial situation as follows: 'The banks basically issued the guarantees on instruction from the government and took little responsibility for evaluating either the economic or financial feasibility of the project.'

A. Interest Rate and Foreign Exchange Rate Realization (IRP) of 1965

The financial reform of 1965 marked a critical development in South Korea's early economic growth period.⁶ The reform confirmed market rates for interest and foreign exchange rates. The interest rate for regular commercial bank loans was raised to twenty-six percent per annum in 1965 from sixteen percent of the previous year.

This market realization policy successfully restrained inflationary pressures and increased domestic savings. The GNP deflator was reduced to seven percent in 1965 from thirty-two percent of 1964. The gross domestic saving rate with respect to GNP more than tripled in the four years following the market realization policy, from only four percent in 1964 to as high as sixteen percent in 1968.

The value of the won plummeted when the won/dollar exchange rate increased to two hundred fifty-five won in 1964 from one hundred thirty won per U.S. dollar in the previous year. At the same time, a decrease in interest rates on export loans encouraged the export promotion policy. Interest rates decreased from eight percent to six point five percent, and had fallen to six percent by 1967. However, the interest rate for general loans increased as a result of the IRP policy. From 1961 to 1965, the annual interest rate on general loans was eighteen percent and this increased to twenty-three percent from 1966 to 1972. Over the same periods, the interest rates on export loans fell from nine percent to six percent. The IRP made export loans nearly twice as advantageous as general loans. This circumstance, together with the devaluation of the won,

⁶ It was recommended by Gurley, Patrick, and Shaw (1965).

contributed to export promotion. Exports increased and light manufactures such as textiles, plywood, and wigs accounted for sixty-three percent of the total.

A negative side effect of the liberalization policy was an increase in costs for domestic firms. Higher interest rates burdened heavily leveraged corporations. Simultaneously, the higher foreign exchange rate added additional costs to imported intermediates and capital goods. Many domestic firms suffered severe financial distress and could not repay loans to commercial banks and private lenders. Nevertheless, the IRP policy was significant in that it introduced market-oriented financial rules to the economy.

B. Investments, Financial Distress, and Exports in the 1960s

During the period of 1962-1969 investment increased at an annual average growth rate of twenty-seven percent with a peak record of fifty-nine point five percent in 1966 following implementation of the IRP. Concurrently, the trade balance deteriorated at a nearly similar rate of twenty-five percent annually due to the import of most capital goods and intermediates. High investment demand together with a trade balance deficit exerted financial strain on the domestic economy, and the demand for loans exceeded the supply. Additional strain was manifested in the curb-market interest rate that exceeded the interest rates of time and savings deposits, and reflected market imperfections. From 1962 to 1969, the discrepancy between the two rate types was twenty-six percent on average (See column 4 on Table 1). This discrepancy reaches its peak in 1964 over the entire period from 1960 to 2004. Interestingly, the annual investment growth rates, the rate at which the trade balance deteriorated, and the gap between the curb-market and time/savings deposit interest rates increased simultaneously at similar rates.

The real GDP grew annually at eight point eight percent during this period. At the same time, investments also increased. The IRP of 1965 increased domestic savings and provided a basis for financing investments in exports. In this respect, the primary import substitution stage had been achieved. Nonetheless, high interest rates imposed debt burdens on corporations. In the third five-year plan, government industrial policy was designed to further boost the economy by creating a secondary import substitution stage favoring heavy and chemical industries.

III. Heavy Chemical Industrial (HCI) Policy of the 1970s

To level the national industrial structure and increase value-added earnings, a third five-year economic plan (1972-1976) was set out that emphasized heavy chemical industrialization. Following the success of the two preceding five-year economic planning policies, South Korea's labor-intensive products had attained a competitive edge in international markets. Most intermediates and capital goods were imported and were subject to preferential tax treatments, in line with the export-promotion policy. From the third five-year economic plan on, the government also began to put greater emphasis on increasing value-added profits.

However, during this period, the high interest rate IRP policy was still in effect, and a great number of firms were on the verge of financial insolvency. The HCI policy faced intense criticism regarding over-investment and the generation of excess capacity in the economy.

This financial danger was lessened by a special emergency measure, decreed on 3 August 1972, that froze private loans borrowed from the curb market for three years and gave corporations five-year grace periods for loan repayments. One of the purposes of the decree was to bring out the private loans of the curb-market to the regulatory financial system. By these measures, many corporations were able to sustain their production, an operation that might not have been possible without the decree. The economy regained its vigor, and exports increased to eight point five U.S. billion dollars in 1975.

The recycling of oil dollars earned through the export of construction materials to, and wage remittances from, Middle Eastern countries also favorably assisted the overall balance of payments. In 1977, the nation recorded a surplus balance of payments, the first since the launch of the five-year economic plans.

In 1978, domestic savings accounted for twenty-seven point two percent of the GNP, far exceeding the three point three percent of foreign savings. The strength of domestic savings suggests that the Korean economy could ensure its autonomy independently, without foreign aid. However, the export structure in 1975 still relied heavily on light manufactures such as textiles, even though shares of iron and steel, electrical machinery, and transport equipment were rising. Textile yarn and fabrics accounted for thirteen percent of total

exports, followed by electrical machinery and transport equipment at twelve percent.

The development of financial institutions also proceeded in the 1970s. Non-bank financial institutions (NBFIs) such as life insurance companies, postal savings programs, trusts, and mutual savings and finance corporations (MSFC) were established during this period. These new entities brought unregulated financial markets further under regulation. Merchant banks also formed in 1976 and played a role in diversifying channels of foreign capital.

A variety of financial instruments competed with the curb market to provide short-term financing. Commercial Papers (CPs) were first established in August 1972. They were issued by non-financial corporations, investment and finance companies, and merchant banks. Commercial banks issued their own competition to CPs through certificates of deposit (CDs). The call money market was launched in 1975 to alleviate financial imbalances among commercial banks and financial institutions. Repurchase agreements (RPs) also came into existence in February 1977 and facilitated short-term financing for corporations (Kang 1990).

However, financial deepening, as measured by the ratio of domestic financial assets to the GNP, showed little improvement in the 1970s. Furthermore, the gap between the curb-market and the time/savings deposit rates had narrowed little by the end of the decade. This gap of twenty-seven percent in 1968 had dropped to only that of twenty-two percent a decade later (Table 1). These figures indicate that the Korean economy in the 1970s remained repressed under a dualistic financial system.

There were, however, hopeful signals in the economy. Banking activities of 1978 relative to the GDP rose by more than three times that of 1965. Another significant character of the financial sector in the 1970s was a change in the loan structure in favor of the NBFIs. The KDB share in the supply of loans and guarantees decreased to eighteen percent in 1978, down from thirty-four percent in 1965 (Cole and Park 1983, p. 63). Meanwhile, the deposit share of the NBFIs increased from sixteen percent in 1965 to twenty-eight percent in 1977.

A. Soaring Real Estate Prices and the State-Chaebol Nexus

Several factors can help explain why financial deepening stagnated

during the 1970s. A critical factor was soaring inflation, caused by the oil-shocks of 1974 and 1979. The real rate of interest, adjusted for the consumer price index (CPI), fell from five point three percent of the previous year to minus nineteen point three in 1974. This inflationary pressure was reinforced by the balance-of-payments surplus in 1977, the first since the launch of the five-year economic plans. As a result, real estate became a preferred investment. The Seoul land value index in the 1970s increased at an annual rate of twenty-nine percent which reaches its highest rate of one hundred thirty-six percent in 1978, the highest one from 1960 to 2004 (Table 1).

Real estate prices have been blamed for causing growing income discrepancies. Wide-spread public criticism made this issue a topic of repeated socio-political debate. To avoid undesirable real estate speculation, various measures aimed at limiting real estate investments were enforced. These measures were less severe for corporations than for individuals. For this reason, corporations had far greater access to loans than did individuals. Such a situation created favorable situations for corporations to invest in physical capital, including land. Increased investment by corporations led to increased output and resulted in overall economic growth. This growth was a positive effect of rising real estate prices, in contrast to the undesirable effects of slowed financial market growth and greater income discrepancies.

Real estate is well received by banks as collateral because it alleviates problems of moral hazard on the part of borrowers. The increase in land prices put corporations that had provided real estate as collateral in a favorable position when borrowing from banks. Because loans had been allocated by the government since the 1960s, the large firms that had had greater access to policy loans also had more opportunities to obtain real estate. Real estate thus provided large firms with a multiplicative way of expanding their loans. As a result, many large corporations became highly leveraged, a situation that later proved problematic in the 1997 financial crisis.

Real estate also provided another link between the government and big corporations in that the government was a major stockholder of the commercial banks, and the chaebol were large real estate holders. Both the state and the chaebol thus shared a common interest in high real estate prices. To the extent that real estate prices increased not, primarily, as a result of a bubble but, rather, by sustainable fundamentals such as the realization of spillovers

from the catch-up economy, the connection formed by real estate collateral between the state and big corporations was solid, sound, and not vulnerable to external shocks.⁷ The HCI policy further strengthened state-chaebol links. A vast amount of the investment required to execute HCI goals was channeled through large corporations. The state-chaebol nexus was further solidified, and replaced financial instruments of savings and those of investment.

The capital market development law was enacted in 1968, followed by an initial public offering law in 1972. Despite preferential treatment in terms of corporate taxes, public stock offerings in corporations were very limited. As of 1979, only five hundred nine corporations were listed on the stock market, and eighty percent of those were publicly offered by the designation of the government. The potentially lucrative real estate market had created little demand for an active stock market. However, stocks boomed in 1977, led by stocks in construction corporations. Remittances from Middle East construction ignited a rise in stock prices. In early 1977, the Korean Stock Price Index (KOSPI) was on the level below one hundred by the end of the year, it had risen to one hundred and thirty-seven. However, the following year, the stock market was again depressed when construction stocks crashed (Rhee *et al.* 2005, pp. 341-4).

Overall, no significant developments in capital markets occurred in the 1970s. Real estate was the favored means of saving and substituted for investments in securities. Cole and Park (1983, p. 109) described the South Korean capital markets in the 1970s as follows:

The long-term securities markets are, however, very much a product of governmental incentives and direction. While they have led to some broadening of the ownership of the major corporations, they have not generated significant amounts of new capital or reduced the heavy reliance on bank and foreign-loan financing, nor have they had much effect in reducing the direct links between the government and the

⁷To the extent to which the price of real estate reflects spillover effects from imported capital goods and intermediates, the situation suggests that real estate values were based on fundamental value and not on a speculation-driven bubble. This is true in economic circumstances in which interest and wage rates are fixed. In other words, it is considered to be plausible that the spillover effects of a catch-up economy fall on the factor of land from the viewpoint of functional income distribution.

principal owner-managers of the large corporations.

However, even in this financially repressed decade, the South Korean economy grew. The emergency presidential decree of 3 August 1972 spurred economic growth of twelve percent in early 1973. Growth held at an average of nine percent annually from 1973 to 1977. This growth performance was comparable to the twelve percent growth in 1966, which had followed the interest realization policy (IRP) of 1965. Similarly, the next five years after 1965 had average annual growth rates of ten percent. Growth performances of the latter 1960s and those of the latter 1970s suggest that growth was independent of financial liberalization (Cho 1989).

Notably, in these two periods, investment rates were also high, independently of the financial environments. The average annual growth rates in investment from 1965-1969 and 1973-1977 were thirty-four percent and twenty percent, respectively. Figure 2 shows how increases in investments paralleled those of imports. The simultaneous rises in these variables were supportive of high growth performance.

B. Industrial Co-Ordination and Trade Structure Improvement in the 1980s

At the start of the 1980s, excessive investment as a result of the HCI policy, combined with heavy inflation brought on by the 1979 oil-price shock, burdened the Korean economy. In 1980, the GNP deflator increased at a rate of twenty-six percent, and the consumer price index soared at an even higher rate of thirty-five percent. The political turmoil caused by the assassination of President Park in October 1979 increased economic uncertainty. The growth rate in 1980 plummeted to minus five percent for the first time since the launch of the five-year plans this was coupled with massive crop failures in the same year. The balance of payments also showed a deficit of five point three U.S. billion dollars in 1980, equivalent to eight point seven percent of the GNP. In the same year, the average debt ratio was on the level of four hundred and eighty-eight (Song 1997, pp. 76-7).

Neither domestic savings nor trade surpluses could supply the capital needed for the HCI policy. After the Park assassination, Do Hwan Chun succeeded to the presidency. The new government's first

goal was to resolve the economic insolvency created by heavy indebtedness. Price stabilization was given the highest priority in governmental policy, followed by mitigation of excess capital in the economy through coordination among chaebols.

The production capacities of the semiconductor, automotive, steel, and shipbuilding industries exceeded relative domestic market demand. Such circumstances can create excess competition, and the market structure can become monopolistic. The government intervened to avoid these effects and attempted to reorganize the industrial structure. Hyundai was advised to make automobile manufacturing its core industry, while Samsung was told to concentrate on semiconductors. Likewise, LG was directed to focus on petrochemicals and yield its semiconductor business to Hyundai. The electrical generator business was assigned to Daewoo. Such reorganization of industries among the chaebols was difficult. To implement the plan, the government used cooperation and, sometimes, the threat of cutting off loans.

In an effort to stabilize the economy, the government pursued a tight fiscal policy aimed at reducing the ratio of the government deficit to the GNP. Credit was also restrained to reduce inflationary pressure. These price stabilization efforts succeeded, and the consumer price inflation rate dropped from an annual rate of twenty-five percent during 1980-1981 to seven percent in 1982. However, growth rates also fell in 1980 and 1981, reducing the GNP growth rate to minus five percent and minus six percent for the above years, respectively.

There was a time lag before the economy realized the benefits of matured investments related to the Heavy and Chemical Industrialization Policy of the third five-year economic plan (1972-1976). Exports gained momentum in the mid-1980s when low interest rates, low oil prices, and low exchange rates of the Japanese yen to the U.S. dollar, in accord with the 1985 Plaza Agreement, gave South Korea a competitive edge in world markets in heavy and chemical manufactures. These favorable factors are often dubbed the 'three-lows' among Korean economists. The rate of return on capital reached a peak level in 1988, the same year the Olympics were held in Seoul.

As the balance of payments turned into a surplus, the burden of foreign debts incurred at the beginning of the 1980s also declined. South Korean exports reached sixty U.S. billion dollars in 1988, and

the average debt ratio fell to two hundred and ninety-six in the same year (Song 1997, pp. 76-7). The 1980s thus became an era in which South Korea's export structure began to level and the nation's comparative advantage shifted from labor-intensive manufactures to heavy-chemical industrial products. More than half of the total commodity exports were HCI goods (Hong 2002, pp. 146-7). These indicators are best exemplified by the rate of increase in the trade balance in 1986. It improved by seven hundred thirty-three percent. This successful performance of the Korean economy indicates that she passes through Ranis's secondary import-substitution stage and the state-chaebol ties were tight and firm as explained by Amsden (Amsden 1989, p. 63).⁸

C. Financial Reform of the 1980s and Erosion of the State-Chaebol Nexus

Tight monetary and fiscal policies in 1980 and 1981 kept inflationary pressures under control. The real rate of interest in 1982 was positive for the first time since the 1965 interest rate realization policy. The economic environment of the 1980s provided a favorable situation for undertaking financial reforms. The real rate of interest in 1982 returned to a positive rate of nine percent after having suffered negative rates in the latter 1970s. By 1984, the real interest rate had reached twelve percent. Between 1981 and 1983, the

⁸ There certainly is an ambiguity between an export-substitution and the import-substitution policy on the second stage as it is read in the following passage of Ranis (1977, pp. 42-3):

We, of course, recognize that these "choices" of growth paths, and of accompanying policy packages, are never quite as clear-cut as all this in real life, but tend to fade into each other at the edges. But while there certainly exist substantial elements of both secondary import substitution and export substitution in the overall production and trade structure of most LDC's, the contrasts painted here are both meaningful and instructive.

The above passage suggests that the export substitution policy, not neglecting its financial aspects through exports, needs to be distinguished from the import substitution policy in which the comparative advantage is not well taken into account. The relevance of the heavy chemical industrial policy in this context could be explained in its exerting disciplinary efforts for development of comparative advantages in relation to her possible exports for the future.

government divested its equity shares in all nationwide city banks, transferring ownership to private banks. Many administrative controls on banking were also eliminated, and entry barriers to financial markets were reduced. Moreover, preferential interest rates applied to policy loans were abolished (Nam 1994, p. 89).

Significantly, in early 1984 financial intermediaries were permitted to determine their own rates within a given range (Nam 1994, p. 191). Diversified financial services were also provided. Unlawful financial practices through the unorganized market provoked financial reform focused on the development of non-bank financial institutions (NBFIs) as a substitute for the informal sector. The NBFIs were largely owned by the chaebol whose shares in commercial banks sharply increased throughout the 1980s.

The ratio of domestic financial assets to the GNP nearly doubled in the 1980s, increasing from two point four in 1980 to four point two in 1990. A salient feature during this period was the increase in the share held by the NBFIs. The ratio of non-bank deposits to the GDP increased to sixty percent in 1990, from thirty-eight percent in 1980. Financing through corporate bonds also grew from four point five percent in 1980 to ten point two percent in 1987. However, the most notable change in this period was the significant increase in the stock market share of the GDP. It increased to eleven percent in 1988, from six percent in 1987.

Financial reforms of the 1980s liberalized the financial market to a great extent. The government moved to privatize the banks and even deregulate interest rates within given ranges. The NBFIs absorbed non-regulated financial markets, lessening the dualistic financial market structure. The curb-market interest rate exceeded the market rate by only two point four percent in 1987, down from a seventeen percent difference in 1977 (Table 1). Another indicator of the success of the financial reforms was the liquidity supply of the economy increased as measured by the ratio of M3 to GDP. By this indicator it had risen to point eighty-eight in 1988 from point thirty-seven in 1976 (Table 1).

However, the economy had not liberalized to the extent necessary for the financial market to perform intermediary functions in place of the government. The government assigned bonds to the NBFIs. Investment trust companies established the Bond Management Fund (BMF) in which individuals could invest by purchasing certificates and participate indirectly in the bond markets. As of 1989, seventeen

trillion won worth of outstanding Monetary Stabilization Bonds were held by the NBFi (Kang 1990, pp. 70-1). The amount of commercial bank shares that could be held by an individual was limited to eight percent of the bank's total equity stock. In addition, the government continued to appoint top bank management throughout the 1980s. These restrictions discouraged active equity investments by large corporations in these banks. Although the financial markets were not fully liberalized, the influence of the chaebols on the financial markets increased through their ownership of NBFi. Kim (1997, p. 189) and other observers wondered, therefore, whether the state-chaebol nexus could be sustained:

The *chaebol's* investment in financial services also highlights a direct competition occurring between the state and the *chaebol* for the provision of such services. Although direct competition in banking is avoided due to the state's prohibition of *chaebol* ownership of banks, it still leads us to a basic question of whether a comprehensive developmental state is necessary when the private sector is mature enough to provide certain services such as banking

The chaebols' influence also increased substantially in the 1980s in the real sector. In 1985 the value-added products of the five largest chaebols accounted for more than six percent of GNP; for the top thirty chaebols, this proportion rose to twelve percent (Chang 2003, p. 10). Thus, the 1980s were an era in which the chaebols expanded their influence both in the real and financial sectors of the Korean economy. The chaebols were instrumental in driving economic growth, exploring economies of scale, and also realizing economies of scope.

IV. Financial Liberalization and the 1997 Financial Crisis

A democratization of politics accompanied the favorable economic changes of the 1980s. President Tae-woo Roh began his administration with a promise of greater democratization on 29 June 1987, and created an economic environment favorable to economic liberalization. A distinguishing feature of the economy during this period was a drastic increase in the wage rate beginning the mid-1980s. The nominal wage rate of 1985 had increased four-fold by 1994.⁹ Profit

margins from investment were squeezed out by the higher wage rate, and the rate of return on capital began to fall. The strengthening of labor unions under President Young-sam Kim's democratization regime (1993-1998) further strengthened wages.

Economic deregulation paralleled political democratization and was further intensified by Korea's entry into the Organization for Economic Cooperation and Development (OECD) in 1996. The remarkable performance of the Korean economy in terms of GDP, trade volume, and *per capita* income had made the nation eligible for OECD membership. The opening of financial markets was a natural outcome of OECD membership and general trends in Korea's political climate.

However, despite growing liberalization, the government-chaebol nexus remained firm, guided by the government's implicit guarantee of chaebol loans, and the government's continuing direct or indirect appointment of bank management personnel. The chaebol-government relationship created negative side effects despite the spectacular growth performances of the Korean economy. Two problems in particular stood out. First, large corporations were highly leveraged, as noted above. In 1997 the top-thirty chaebols had average debt-equity ratios of six hundred (Chang 2003, pp. 12-3). The second problem related to lack of discipline in the financial sector. Loan decisions were based on government industrial policy, which guided fund allocations, rather than by nonbiased surveillance and evaluation of risks.

The scarcity of loans meant that it was common practice for short-term loans to be rolled over without further restraints. Without full economic reform in lending practices, the financial sector and the implicit state-chaebol nexus were left to market discipline by the financial liberalization policy of 1995, summarized by Woo-Cumings (2001, p. 362) as follows:

The dilemma in Korea is that the state had to both guarantee and discipline the *chaebol*. The true "miracle" in Korea in the three decades since the 1960s was that it juggled these conflicting roles. But in the early 1990s the government abandoned its juggling act, without putting in place prudential regulations to rein in the behavior of the

⁹ As computed from Table 5.7 of Song (1997, p. 76).

nonbank financial intermediaries, which were increasingly providing an internal capital market for the *chaebol*. This *auto-da-fe* in favor of the “markets” left Korea defenseless in the face of a massive financial crisis.

The *chaebol* had grown to the extent that the government could no longer play the role of implicit guarantor or justify the “too big to fail” slogan. Instead, the *chaebol* had become “too big to bailout” for the state. The state-*chaebol* nexus, which had helped build the Korean economic success, had become a source of economic fragility and was vulnerable to external shocks. This vulnerability, which had to be dealt with within the fiscal discipline of financial liberalization, contributed to the 1997 financial crisis.

A. A Triple Mismatch and Future Prospects

Prior to the 1997 financial crisis, the difference between market and curb rates of interest remained relatively stable. The share of loans provided by the NBFIs also changed little. However, one important shift was the liberalization of the capital account. As noted above, Korea joined the OECD in 1996. Although the capital account was liberalized, large corporations remained highly leveraged, suggesting that the state-*chaebol* inertia remained intact.

Korea’s domestic financial sector was unprepared for the altered economic environment in the wake of the 1995 financial liberalizations. The rollover of short-term loans, creating *de facto* long-term loans, was still common practice. Financial audits were mere formalities for meeting tax office report requirements. Cross-share holdings of equities and cross-loan guarantees among affiliates and between subsidiaries and the home company of the *chaebols* were also prevalent. Merchant banks expanded with democratization in politics. These banks were mostly owned by the *chaebol* and funneled necessary funds to the large corporations. Furthermore, most merchant bank loans were made to firms within the *chaebol* group. These institutions served as financial intermediaries to fill the gap between the banks and the stock market. Merchant banks even used portions of funds borrowed at low rates from the international financial market to invest in high-yield foreign junk bonds.

In 1997 the top five *chaebol* owned three merchant banks, six securities companies, three investment trust companies, three life insurance companies, and twelve other financial services (Chang

2003, p. 58). Profligate management of the merchant banks has been noted as a cause of the financial crisis. Not possessing their own credit and risk assessment capabilities, the domestic financial institutions were exposed to risk from the large corporations of the chaebol.

The debt-GDP ratio of the South Korean economy had continued to decrease since its peak in the early 1980s. The nation had ample capability to repay debts and interest, and the debt service-export ratio was below ten percent. The ratio of short-term debt to total external debt, however, reached fifty percent in 1997, provoking a liquidity crisis on the withdrawal of foreign short-term debts.

As noted above, the chaebol had grown excessively large in relation to the Korean economy in the 1990s. They had begun to outweigh the government in their size and in their role following the HCI policy of the third five-year economic plan. A large inflow of foreign capital further diminished the previous role of the government as a guarantor of foreign loans, a situation exemplified by the government's inability to bail out Hanbo, which was then one of the largest corporations of the top-thirty chaebols in Korea. Thereafter, Sammi, Jinro, and Kia were subject to court surveillance. These failures showed that the government could no longer serve as implicit guarantor of foreign loans. Foreign investors lost confidence in the ability of the Korean economy to protect loans and many loans were withdrawn.

Under such an environment, capital liberalization endangered the capability to repay external loans. Banks were defenseless when requested to repay short-term debt, as opposed to the conventional loan rollover practices. As foreign creditors called in loans and pulled out of the Korean stock market, the domestic exchange rate received a boost from the drastic increase in the exchange rate.

Foreign loans denominated in U.S. dollars were extended to long-term loans in domestic currency (won). The assets and net worth of banks fell greatly because of the depreciated won. This deterioration of bank balance sheets led to further outflow of foreign capital and additional weakening of the won, creating a downward spiral of devaluation.

The state-chaebol nexus, which had taken the place of the savings-investment financial market, could no longer be sustained within financial liberalization. Chang (2003) noted that ineffective restructuring of economic practices based on the traditional ties

between the state and chaebols was a result of this underlying inertia. Thus, a mismatch arose between the state and the chaebols regarding the state's implicit guarantee of chaebol loans. Chang (2003, pp. 35-7) argued the following:

The Korean financial crisis made it manifest that both *chaebols* and the government failed to respond to their changing constraints. The transition of *chaebols* and the government did not entail the scrapping of the old system and starting from scratch. Rather, the routines and practices, organizational forms, and social ties persisted and functioned as sources of inertia ... Thus, the crisis of 1997 was due to this mismatch between changing the external environments and internal capabilities of both *chaebols* and the government. This mismatch was caused by inertia of both institutions.

In summary, a triple mismatch caused the financial crisis of 1997: mismatches of currency, loan maturity, and the state-chaebol ability to cope with the capital account liberalization.

How could future financial markets prevent the occurrence of this interrelated triple mismatch? If the government had avoided implicit guarantees on loans for big corporations in advance of the capital account liberalization, over-borrowing from abroad would not have occurred. Likewise, the crisis could have been avoided if the long-term capital markets had been sufficiently developed to absorb the rollover of short-term loans denominated in U.S. dollars. Eichengreen and Hausman (1999) referred to loan maturity and currency mismatch as the 'original sin', indicative of imperfect capital markets in a developing economy. This 'original sin' model also involves the interrelated foreign exchange and long-term bond markets. Stability of the long-term bond market would deter foreign investors from withdrawing capital out of the host country similarly, long-term confidence in domestic currency would induce foreign investment into the long-term capital market. It is debatable as to which market is more relevant when it comes to ensuring stability in other markets. For instance, McKinnon (2002, p. 235) has argued that East Asian economies need stable exchange rates with respect to the dollar to create economic environments conducive to developing long-term bond markets:

Only with long-term confidence in the purchasing power of domestic money (against the center country's) would exchange rate expectation be naturally regressive and long-term bond and mortgage markets be possible to organize – both domestically and for commercial (non-sovereign) international borrowing.

If a long-term expectation with respect to reversing the flow of foreign short-term withdrawals had been developed, much of the adjustment costs of the crisis could have been alleviated. After the crisis, South Korea's financial markets experienced substantial changes in the bond market, followed by a general restructuring of the financial sector.¹⁰

B. Aftermath of the Crisis

Foreign capital returned to Korea after successful recovery from the financial crisis. This return made it easier for the general public to obtain loans from financial institutions. Easy access, which had previously been limited to large corporations or privileged chaebols, was now extended to the general public. One notable outcome was an increase in household debt. Loans to households accounted for twenty percent of total loans in 1993 and fifty percent of total loans in 2004. The indiscriminate issue of credit cards to the general public also directly increased household debt. The so-called credit-card problem led to a rise in household defaults. However, greater access to credit also generated increased domestic demand, offsetting the recessionary economic downturns related to the financial crisis. A loan repay program in parallel with that offered to corporations was developed for households in danger of credit default.

In the aftermath of the financial crisis, public investments in social overhead capital for schools, public libraries, and highway construction gradually became more market based. One example was the enterprise-city development plan. According to this plan, a large corporation could be given land expropriation rights. Capital gains accruing from the land development would then be used for local public interests. This new plan transferred the traditional state right to use and purchase land to large corporations, mostly chaebols.

¹⁰ IMF program and the changes in the financial market after the crisis are relegated to the Appendix.

This move indicates that the chaebols had gained an even more influential position relative to the state in that they had become involved in regional developmental projects, projects that had been the sole responsibility of the government in the 1960s and 1970s.

Investments in social overheads have frequently been carried out by consortiums. The structures and facilities built by the consortium may then be transferred to government, and the costs incurred would be covered either by usage fees or by renting to the government for a certain period. In the former case, the private sector shares in the risk, while in the latter case, the government assumes most risk. This type of investment involves more market-based decision-making with respect to sharing risks than did investments carried out by the government in the 1970s and 1980s. The success of the enterprise-city proposal depends on the extent to which real estate prices stabilize and balanced development across regions can be achieved.

The rest of this paper reviews the investment financing role of exports in the growth experience of the Korean economy within this developmental period in light of the Ranis's export-substitution strategy.

V. Investment Financing Role of Exports

Figure 1 exhibits the rate of change in fixed capital stock and that in trade balance from the period of 1960 to that of 2004. The fixed capital stock reached its highest rate of increase by fifty-nine point five percent in 1966 following the financial liberalization regime of the interest rate realization policy (IRP). Another peak growth rate of the capital stock is marked by the rate of thirty-four point four percent in 1978, largely due to the heavy chemical industrial (HCI) policy. A decade of 1990s began with its peak rate of investment by twenty-five point four percent. These peak rates of investment are shown in Figure 1 together with those of the trade balance improvement rates.

The rate of change of trade balance on Table 1 is defined as the change of the trade balance relative to that of income. The counterpart peak rate of the improvement of the trade balance is lagged behind that of the investment rate by about eight to ten years. The rate at which the trade balance improves most rapid during 1970s is recorded by seventy-six point five percent of 1976.

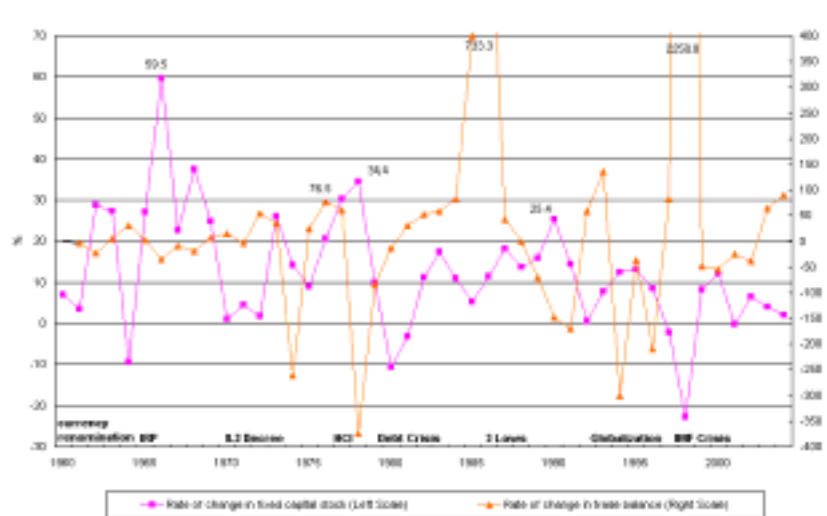


FIGURE 1

THE RATE OF CHANGE IN FIXED CAPITAL STOCK AND THE RATE OF CHANGE IN TRADE BALANCE FROM 1960 TO 2004

This rate increased by about a seven and the half times that of 1986. The most remarkable improvement rate is marked in 1998 by twenty-two and the half times of the previous financial crisis year of 1997. The increase of trade surplus with respect to income lessens the financial strains of the economy.

Figure 1 presents events of financial repressions and those of liberalizations in a chronological order during the period from 1960 to 2004 of the Korean economy. It starts from the beginning of 1960s with the financial repression of the currency denomination from hwan to won. These events are shown to occur in the intermediate period between the peak of the investment rate and that of the trade balance improvement rate. The August 3rd Decree of 1972 was promulgated in between the trade balance peak of 1976 and the investment peak of 1966. A trade balance was deteriorated by the rate of three point nine percent in the preceding year of the Decree (See Table 1). A foreign debt problem of 1980 occurred in between the trade peak of 1986 and the investment peak of 1978. Trade deficit occurred in concurrent with the foreign debt. The financial crisis of 1997 in its time scale is situated in between the

trade balance peak of 1998 and the investment peak of 1990. The trade deficit in the crisis year of 1997 increased by the two times that of the previous year.

This recurrent pattern of financial distresses associated with investment and the resolutions by the improvement of trade balances at an approximately decade intervals is consistent with the deviant pattern of developing economies as proposed by Ranis as for the investment financing role of exports.

A. A Comparison of Two Peak Rates

In the previous section the two peak rates are compared for explanation of the Ranis's export earning hypothesis for resolution of the financial strains of a developing country. What justification do we have for this explanation? Two scenarios may be suggested with respect to the direction of its causality. One possible hypothesis is that the investment precedes the financial resolutions achieved by the trade surplus. The alternative one is on the view point of the reverse direction. Export earnings provide opportunities for investment expansion which is associated with imports of intermediate and capital goods. The financial distresses related to trade deficits eventually limit the investment.¹¹

In the first scenario a 'time to build' model related to trade structure of an economy is implicit in comparing the two peaks. It takes time in construction of buildings and equipments for production of exportables.

This argument is based on the presumption that most of capital equipments and intermediates necessary for production in a developing economy are imported. Figure 2 displays the relationship between these two variables. The investment ratio of GDP moves in parallel with that of the import ratio throughout the period of four decades except for the period beginning from 1990s up to the financial crisis period.¹² It suggests that financial returns on

¹¹ This second possibility is suggested by one of the referees.

¹² One of the possible explanations for this divergence could be due to a change in trade structure of the economy. Capital goods and equipments are no longer imported and they are substituted by domestic production. The other alternative explanation is due to the lagged-effects of investments are prolonged. What is significant, however, in the argument of this paper is in an exhibition of the co-movement of the investments and the imports by the end of 1980s.

investment are realized by trade surplus. The time intervals of investments-returns are measured by those of the two peaks. This consideration leads us to a presumption that a firm's financial burdens become most severe in the middle of the two peaks before it reaps its export earnings.

One of the most convenient measures for distinguishing between these two scenarios in the present paper is the ratio obtained by division of the previous peak growth rate of investment by the lagged one of trade balance improvement. It is interpreted as the amount of the rate of investment for a given rate of improvement of trade balance to be able to finance and is considered to represent the degree of the effectiveness of Ranis's investment financing role of exports. A decrease of this ratio implies that the financing role of exports gradually decreases. As a trade structure of an economy undergoes a change by replacement of imported capital goods with domestic production or as the liquidity supply is sufficient by the financial deepening of the domestic economy this measure of the effectiveness of the investment financing role of export will be decreased.

Over the four decades decreased the peak growth rates of the increase in the fixed-capital stock as against the increase of that of the improvement in trade balance. This effectiveness ratio of investment financing of exports decreases to five percent in 1986 and finally one percent in 1998 from eighty percent in 1976. This investment-related import demand scenario is considered to be more appropriate for the periods up to the end of nineteen eighties.

As the liquidity constraints for firms are alleviated along with the increase in the supply of liquidity in the economy the financial role of the trade surplus will be diminished. It is noted in the last column of Table 1 the liquidity of the economy as measured by the ratio of M3/GDP exceeds one from the beginning period of 1990s. This period of increasing liquidity supply coincides with each other that of the Korean economy passing through Ranis's secondary stage of import substitution.

B. A Virtuous Circle of Spillover Effects

In explaining the growth of a catch-up, late-industrializing economy such as that of South Korea, Amsden (1989) attributed successful growth performance to the state, entrepreneurs, a highly

qualified workforce, and well-trained bureaucrats and firm managers. These factors contribute to the transfer of technology and applications from contact with foreign marketing personnel, engineers, and scientists, and help the market open. Acquisition of knowledge and know-hows through spillover effects from imported capital goods and intermediates could be another factor which contributes for transfer of technology.

Financing of the investment-related imports by export earnings creates a virtuous circle through which knowledge spillover effects occur to the domestic economy. This process of the investment-related imports turns out to be favorable for economic growth of the Korean economy.

The next to the last column of Table 1 presents the rate of change in Seoul land value index. This index shows that the Seoul land price was more than doubled in 1977. One of the most influential factors for this hiking price level is the balance of payments surplus due to the recycling of the then oil dollar brought by the construction workers at the Middle East. Besides this surplus from the service account the trade surplus of the previous year is another factor to be taken into account. Subsequent to the trade surplus of 1986 was the rate of the increase of the land value index by thirty-three point five percent observed in 1989. In an economy in which financial market is not yet fully developed the land price index can be considered as a measure of capital gains for investments. These accruals of capital gains of investments reinforce the virtuous investment cycle.

A different interpretation for the circle becomes possible, depending on which peak rate one first starts from. Suppose one starts from that of the trade balance. Expansion of overinvestment becomes possible on this trade balance peak because of the expectation of the accruals of future capital gains. This over investment results in a trade deficit and the financial distress occurs. After a lapse of a certain period of time, trade surplus picks it up by exchange rate adjustments. Then the favorable expectation repeats itself generating the investment-related import demand. This scenario is reverse to the first one in a direction of its causality. This export-expansion scenario of the trade peak preceding to the investment peak much hinges on price flexibility of the economy. Indeed, the fortunate events of the three lows in the middle of nineteen-eighties and the plummeted value of won in nineteen ninety

eight all attributed for the trade surpluses. This would not, however, have become possible without the productive capacity of the economy to meet the foreign demands. In this respect the export-expansion scenario is more relevant for the economy in which productive capacity to meet export demands already exist. Access to liquidity becomes presumably easier in this economy and the role of exports for investment financing is negligible.

However, for the economy in which no sufficient capital equipments are provided and starts from the scratch as it was in the early developmental periods of nineteen sixties and nineteen seventies of the Korean economy the investment-related import demand scenario is considered to be more relevant.

Spillover effects from imported capital goods increase productivity of domestic labor and provide a competitive edge for technologically more sophisticated industries. This continuous injection of spillover effects from the advanced economy makes it possible for an economy to move its trade structure toward more sophisticated ones. Without import of capital goods being able to be financed by exports, economic growth of the early developmental stage could not have been sustained.

The functional distribution of income related to spillover effects is another important issue for the economy on her early developmental stage. In an economy in which financial market is depressed and the labor market is also suppressed, spillover effects from the abroad would most likely to fall onto the real estate sector as well as on the capital goods. In Korea, land is scarce in its supply relative to labor and its soaring prices as indicated previously are supportive of this conjecture.

Real estates were, therefore, well received as collateral with which to secure loans from financial institutions. Real estate collateral provided by the chaebols to financial institutions helped sustain the state-chaebol nexus until at least the mid-1980s. The exhaustion of spillover effects meant the end of capital gains appropriations. The state-chaebol nexus erodes itself as the capital gains from real estates could no longer be accrued. The eventual bursting of the real estate bubble suggests that a developing economy must pass through Amsden's learning stages (Amsden 1989), before entering the mature stage.

The recurrent circles of investment, financial distress, and exports followed by soaring real estate prices were conducive to economic

growth as long as the positive externalities were involved in the investment. On entering the mature economic stage, once the realization of externalities associated with investments and capital gains were no longer possible, the bubble on which the real estate prices were founded was bound to burst. This occurrence, however, provided a favorable economic environment for financial market deepening, as indicated by the increase in the ratio of domestic financial assets to the GDP. Autonomy of financial intermediation in asset portfolio management as well as in loans could also improve.

The macroeconomic and financial indicators shown in Table 1 confirm the conventional wisdom that financial deepening occurs with rises in *per capita* income (Gurely and Shaw 1955, 1967; Goldsmith 1969). The portion of liquid liabilities relative to the GDP, as measured by the M3/GDP ratio, increased from point thirty-seven in 1971 to one point sixty-five in 2004. The gap between the curb-market interest rate and the time/savings deposits interest rates was substantially reduced. In 1963 the curb-market rate exceeded the time and savings deposit rates by thirty-one percent. This gap almost disappeared in 2004, suggesting that the financial market became integrated and absorbed fragmented informal financial markets after a certain developmental stage. Sustained economic growth throughout four decades of alternating financial regimes also suggests that the type of financial regime had no direct effect on economic growth. However, subdividing the four decades allows examination of any systemic recurrent patterns with respect to investment, financial distress, and trade balances.

Increases in investment throughout the period from 1960 to 2004 have sustained growth of the Korean economy. Starting from the market-oriented financial regime of 1965, financial repression and liberalization alternated, ending with financial liberalization after the financial crisis. Amidst these alternating regimes, financial liberalization and investment increased without any significant interruptions, and economic growth continued, leading the economy to a mature stage of financial diversification. The pattern of investments, imports, financial distress, exports, and soaring real estate prices repeated itself before the spillover effects of the catch-up economy were exhausted and before it reaches her maturity.

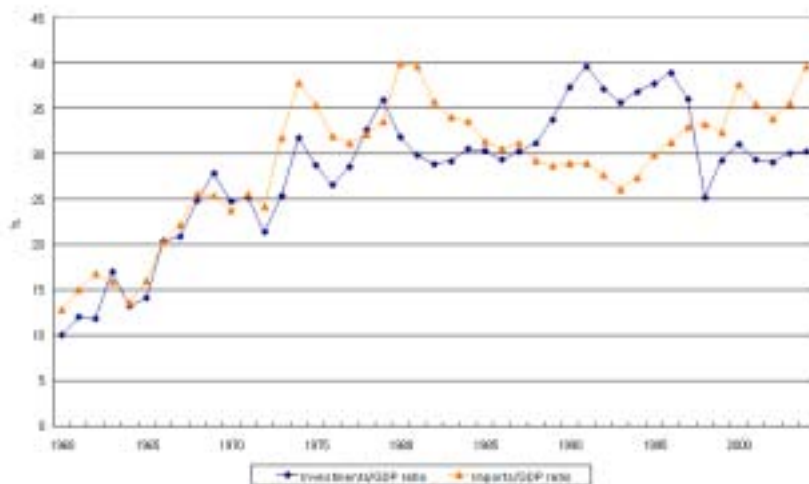


FIGURE 2

INVESTMENTS AND IMPORTS AS PERCENT OF GDP FROM 1960 TO 2004

VI. Conclusion

A Rostowian take-off of the Korean economy was possible through risk taking by the authoritarian state led by President Chung-hee Park, in collaboration with the early chaebol founders. Joint risk taking by the state and business connected to the credit supply, which was controlled by the government.

From 1960 to 2004, an alternate sequence of financial repression and financial liberalization occurred at approximately decadal intervals. South Korea's financial market was repressed at the beginning of 1961 with a currency denomination but turned in a more market-oriented direction with the introduction of the interest rate realization policy (IRP) in 1965. High interest rates due to market liberalization, together with the heavy and chemical industrial (HCI) policy of the third five-year economic plan (1972-1976), put financial burdens on corporations and prompted the emergency presidential decree of 3 August 1972. In this period, the financial market returned to repression.

However, the economy grew throughout these two financial regimes, without interruptions. The economy grew at ten percent from 1961 until the implantation of the IRP policy. Likewise, the

economy grew at nine percent on average for five subsequent years following the August 1972 emergency decree. The annual rate of investment was high in both of these periods: thirty-four percent from 1965 to 1969, and twenty percent from 1973 to 1977. Commercial banks allocated loans under the state-chaebol nexus, regardless of the financial regime in the 1960s and 1970s. This loan allocation scheme was effective in mobilizing domestic savings and implementing industrial policy. Significant to the IRP, however, was that a market-oriented financial regime was introduced at the initial period of the development stage and helped spur growth momentum for the Korean economy.

Until the 1997 financial crisis, substantial improvements, such as financial deepening and an increase in the variety of financial instruments, occurred throughout the 1980s and 1990s. Unregulated financial markets were absorbed into regulated ones with development of the NBFIs. The gap between curb-market and time deposit interest rates was reduced from twenty percent in 1979 to twelve percent in 1989. The financial deepening ratio in 1989, measured by the ratio of liquid liabilities to the GDP, was nearly two times that in 1979.

With the success of the HCI policy, the influence of large corporations on the economy increased with respect to output, employment, and loan sizes. Increasing ownership of the NBFIs and commercial banks by the chaebols allowed the chaebols to compete with the government in the financial market. The state-chaebol nexus thus became increasingly eroded, beginning in the mid-1980s.

Labor unions became more active in conjunction with political democratization, and wage rates soared from the mid-1980s. Profits from investment were squeezed out, and the rate of return on capital began to decline. South Korea also became a member of the OECD in 1996, a move that obliged the government to open the capital account. This greater openness was another significant change in the economic environment and influenced the state-chaebol relationship.

The financial crisis of 1997 showed that the government could no longer play the role of guarantor for large corporations. The state-chaebol bond came to its demise, and IMF financial remediation was instituted. The growth and finance pattern of the last four decades suggests that the relationship between the state and business in South Korea has changed as the economy has moved through several developmental stages.

Over these four decades, a systematic pattern of growth in relation to finance has occurred. Financial distress caused by investment has been relieved through increased exports. This investment-cum-export cycle has been repeated at approximately ten-year intervals. After the financial distress of the early 1970s, export performance greatly improved, laying the foundation for the export of light manufactured goods, passing through Ranis's first import-substitution stage. Likewise, after overcoming the financial burdens of the early 1980s created by the recall of foreign loans through the 'three lows', the Korean export structure was leveled up to heavy chemical manufactures such as electrical appliances, ships, steel, semiconductors, and automobiles. By this time it reaches Ranis's second stage of import-substitution. The financial crisis of 1997 was also followed by a recovery marked by an increase in exports of semiconductors, automobiles, information technology equipment, and steel.

Each financial recovery was associated with an increase in exports. Export-led growth of the South Korean economy has relieved harsh financial distress over the past four decades. In this respect, South Korea's economic growth and associated financing from 1960-2004 has exhibited a pattern consistent with Ranis's export-substitution strategy. Financial deepening has occurred, and financial services have diversified, confirming Gurley and Shaw's hypothesis (1955, 1967).

Following the financial crisis, the government has moved from a partnership role to one involved in creating an economic environment favorable for market discipline in the financial and real sectors. Economic restructuring after the financial crisis has been carried out in this context. The Financial Supervisory Commission supervises and coordinates bank mergers and acquisitions. The Fair Trade Commission aims to improve corporate governance and the business transparency of the chaebols. Restructuring problems and the promotion of market discipline have replaced the five-year economic plans launched in the 1970s, and now present new challenges for the Korean economy.

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TABLE 1
 MAJOR INDICATORS OF KOREAN ECONOMIC GROWTH,
 TRADE AND FINANCE, 1960-2004

Year	Growth Rate of Real GDP	Rate of Change in Fixed Capital Stock	Curb-Market Real Interest Rate	Real Interest Rate on Time Deposits	A Gap between Curb-Market and Time Deposits Rates	The Ratio of Investments to GDP	The Ratio of Exports to GDP	The Ratio of Imports to GDP	Rate of Change in Trade Balance	Rate of Change in Seoul Land Value Index	Ratio of Liquid Liabilities to GDP
1960	1.2	7	n.a.	n.a.	n.a.	10	3.4	12.8		n.a.	0.10
1961	5.9	3.5	n.a.	n.a.	n.a.	12	5.4	15	-2.1	n.a.	0.14
1962	2.1	28.7	n.a.	5.7	n.a.	11.8	5.1	16.8	-21.9	n.a.	0.14
1963	9.1	27.3	26.5	-4.6	31.1	17.0	4.8	15.9	5.1	n.a.	0.11
1964	9.7	-9.3	19.5	-14.9	34.4	13.2	5.9	13.6	30.6	68.0	0.09
1965	5.7	27.1	44.5	8.1	36.4	14.1	8.6	16.0	3.9	33.9	0.12
1966	12.2	59.5	45.6	19.2	26.4	20.4	10.4	20.3	-33.8	n.a.	0.14
1967	5.9	22.6	47.0	22.2	24.8	20.9	11.5	22.2	-8.1	n.a.	0.18
1968	11.3	37.4	43.8	17.7	26.1	24.9	12.8	25.6	-19.6	52.5	0.24
1969	13.8	24.8	42.2	16.6	25.6	27.9	13.5	25.4	7.0	84.1	0.29
1970	8.8	1	38.2	12.6	25.6	24.8	13.6	23.8	14.3	4.0	0.28
1971	8.2	4.6	34.5	12.3	22.2	25.2	15.0	25.6	-3.9	28.7	0.37
1972	4.5	1.7	22.1	1.7	20.4	21.4	19.4	24.2	54.7	5.7	0.40
1973	12	26.2	30.2	5.3	24.9	25.4	28.7	31.8	35.4	1.6	0.44
1974	7.2	14.1	-3.2	-19.3	16.1	31.8	26.7	37.9	-261.3	30.7	0.39
1975	5.9	8.9	11.6	-9.2	20.8	28.8	26.9	35.4	24.1	31.6	0.38
1976	10.6	20.7	25.3	3	22.3	26.6	30.0	32.0	76.5	16.1	0.37
1977	10	30.2	26.7	6.6	20.1	28.6	30.4	31.2	60.0	31.7	0.41
1978	9.3	34.4	26.9	4.5	22.4	32.7	28.4	32.2	-375.0	135.7	0.41
1979	6.8	10	20.3	0.2	20.1	36.0	26.6	33.6	-84.2	6.4	0.42
1980	-1.5	-10.7	12.7	-7.1	19.8	31.9	32.1	40.0	-12.9	13.4	0.46
1981	6.2	-3.1	11.5	-4.3	15.7	29.9	34.3	39.7	31.6	3.6	0.48
1982	7.3	11.1	21.8	0.7	21.1	28.9	33.2	35.8	51.9	8.7	0.56
1983	10.8	17.4	21.6	4.4	17.2	29.2	33.0	34.1	57.7	57.7	0.58
1984	8.1	10.9	22.2	7.6	14.6	30.6	33.4	33.6	81.8	23.3	0.61
1985	6.8	5.3	21.1	7.4	13.7	30.4	32.0	31.4	400.0	8.1	0.66
1986	10.6	11.5	20.9	7.0	13.9	29.4	35.6	30.6	733.3	3.7	0.73
1987	11.1	18.1	21.3	6.7	14.6	30.3	38.3	31.2	42.0	6.3	0.81
1988	10.6	13.6	14.4	2.7	11.7	31.2	36.4	29.3	0	28.1	0.88

(Table Continued)

Year	Growth Rate of Real GDP	Rate of Change in Fixed Capital Stock	Curb-Market Real Interest Rate	Real Interest Rate on Time Deposits	A Gap between Curb-Market and Time Deposits Rates	The Ratio of Investments to GDP	The Ratio of Exports to GDP	The Ratio of Imports to GDP	Rate of Change in Trade Balance	Rate of Change in Seoul Land Value Index	Ratio of Liquid Liabilities to GDP
1989	6.7	16	15.9	4.1	11.7	33.8	30.8	28.7	-70.4	33.5	0.99
1990	9.2	25.4	13.8	1.3	12.4	37.4	28.0	29.0	-147.6	31.2	1.06
1991	9.4	14.4	13.7	0.6	13.1	39.7	26.3	29.0	-170.0	11.2	1.08
1992	5.9	0.6	15.8	3.5	12.3	37.2	26.6	27.7	59.3	-2.8	1.16
1993	6.1	7.7	17.1	3.5	13.5	35.7	26.5	26.1	136.3	-8.7	1.22
1994	8.5	12.5	15.2	2.9	12.2	36.9	26.6	27.4	-300.0	-1.4	1.30
1995	9.2	13.1	17.2	4.2	13.0	37.8	28.8	29.9	-37.5	0.2	1.32
1996	7	8.4	6.6	3.8	2.7	39.0	27.9	31.3	-209.1	0.9	1.37
1997	4.7	-2.3	8.6	5.9	2.7	36.1	32.4	33.0	82.4	0.3	1.43
1998	-6.9	-22.9	7.0	5.4	1.6	25.2	46.2	33.3	2250.0	-16.3	1.63
1999	9.5	8.3	8.0	6.2	1.8	29.3	39.1	32.4	-48.1	2.7	1.61
2000	8.5	12.2	6.9	4.7	2.2	31.1	40.8	37.7	-53.7	0.1	1.58
2001	3.8	-0.2	2.8	1.3	1.5	29.4	37.8	35.5	-25.8	1.9	1.64
2002	7	6.6	3.8	2.0	1.8	29.1	35.3	33.9	-39.1	15.8	1.69
2003	3.1	4	1.8	0.6	1.2	30.1	37.9	35.6	64.3	5.3	1.67
2004	4.6	1.9	1.1	0.1	0.9	30.3	44.1	39.7	91.3	4.1	1.65

Sources and notes:

- 1) Growth Rate of Real GDP, Rate of Change in Gross Investments: Bank of Korea, *Economic Statistics System*.
- 2) Fixed capital stock comprises transport and machinery equipment, residential and nonresidential construction, and intangible assets.
- 3) Curb-Market Interest Rates:
1960-1978: Cole and Park (1983, pp. 272-3, Table 49).
1979-1995: Song (1997, p. 164, Table 9.4).
1996-2004: Annual yield of 3-year corporate bonds on O.T.C, Bank of Korea, *Economic Statistics System*.
- 4) Interest Rates on Time Deposits:
1960-1978: Cole and Park (1983, pp. 272-3, Table 49).
1979-1995: Annual interest rates on time deposits at NCB, Bank of Korea, *Economic Statistics Yearbook*, various volumes.
1996-2004: Annual weighted-mean interest rates on time deposits, Bank of Korea, *Economic Statistics System*.
- 5) The Ratio of Investments to GDP, The Ratio of Exports to GDP, and The Ratio of Imports to GDP:
Bank of Korea, *Economic Statistics System*.
- 6) Trade Balance:
1960-1969: Bank of Korea, *Economic Statistics Yearbook*, various issues.
1970-2004: Bank of Korea, *Economic Statistics System*.

- 7) Capital/Output ratio: Computed from Pyo's capital stock data (2002) for 1960-1999.
- 8) Capital/Output ratio is measured in current won where output represents current GDP.
- 9) Rate of Change in Seoul Land Value Index:
1964-1974: Cole and Park (1983, pp. 272-3, Table 49).
1975-2004: Ministry of Construction and Transportation,
Construction Statistics.
- 10) Ratio of Liquid Liabilities to GDP: Bank of Korea, *Economic Statistics System*.
M2/GDP is used for 1960-1970 and M3/GDP for 1971-2004.
M2 = M1 + *Quasi-Money* (Time and savings deposits and resident's foreign currency deposits at monetary institutions).
M3 = M2 + OFI deposits + Debentures issued + Commercial bills sold + CD + RP + Cover Bills

Appendix: IMF Program and the Korean Financial Markets after the Crisis

A. IMF Program

At the onset of the 1997 financial crisis, only six U.S. billion dollars of foreign reserves were available to meet withdrawal requirements of two hundred U.S. billion dollars. An emergency International Monetary Fund (IMF) measure was introduced to relieve the financial distress. The program recommended keeping the domestic interest rate as high as thirty percent to stabilize the won/dollar exchange rate, which had plummeted to nearly one thousand and eight hundred won per U.S. dollar in December 1997 from eight hundred and fifty won per U.S. dollar in the pre-crisis period. This prescription was opposite to that suggested at the onset of financial distress periods in the 1970s and 1980s. The IMF measure was aimed at ensuring the stability of the foreign exchange market to restore confidence in the won.

The IMF measure caused much debate. Financial programs in the late 1970s and 1980s had shown that low interest rates helped financially troubled firms. It is argued on the part of critics that the IMF policy would cause sound firms, albeit highly leveraged ones, to go bankrupt, thus creating even more economic trouble. Indeed, economic growth plunged to minus six point seven percent in 1998, and the unemployment rate more than doubled to six point eight percent in the same year, as compared to a rate of two point seven

percent in 1997. These data supported the argument for a low interest rate policy.

Nonetheless, the IMF policy helped break the state-chaebol nexus that had existed for nearly four decades during the development of the South Korean economy. The IMF measure shielded economic reformers seeking to create boundaries between the state and chaebol and advance fair competition within the Korean economy.

B. Restructuring and Financial Markets after the Crisis

In the aftermath of the financial crisis, the role of government largely changed to that of a market-based, regulatory role with respect to monetary and fiscal policies. Financial liberalization measures were further reinforced. Domestic corporations were allowed to issue stocks abroad, limitations on foreign ownership of stocks and bonds were abolished, and futures and options markets related to the stock index were permitted to open.

Immediately after the crisis, government policy was aimed at restructuring both the financial and corporate sectors to meet the Bank of International Settlements (BIS) debt-equity ratio imposed by the IMF. A debt-equity swap was the most convenient way to reduce debt leverage for corporations, although this method diluted the ownership share of the chaebol. More transparent accounting practices were required on the corporate level. As such, cross-share holdings of stocks and cross-debt loan guarantees among chaebol affiliates were regulated by the Fair Trade Commission (FTC).¹³

C. Bank Mergers and Acquisitions

Restructuring proceeded in both financial and corporate sectors. Banks, in particular, faced mergers and acquisitions (Rhee *et al.* 2005, p. 68). What had been nineteen banks prior to 1998 were reformed into five main banks. The Choheung Bank merged with the Shinhan Bank. The Commercial Bank and the Hanil Bank were integrated to form the Hanvit Bank, which later became the Woori Bank. Five banks were also merged to become the Kookmin Bank, and the Seoul Bank was integrated into the Hana Bank. Foreign banks actively participated in acquiring shares of domestic banks.

¹³The cross-share holdings and cross-debt guarantees created leverage for the chaebols.

Lone Star acquired fifty-one percent of the shares in the Korea Foreign Exchange Bank. New Bridge Capital bought forty-nine percent of Cheil Bank shares. Approximately seventy percent of Kookmin Bank stocks were held by foreign owners, as were fifty percent of Shinhan Finance shares. At Hanmi Bank, foreign shareholding reached eighty-six percent. The merchant banks, which were blamed for reckless inflows of foreign short-term capital, shrank from thirty in 1997 to three in 2001. Bank mergers and acquisitions increased competitiveness at the international level and facilitated the financial sector restructuring by improving the debt/equity ratio to meet the BIS standard.

The financial supervisory function of the government was also strengthened under the Financial Supervisory Commission (FSC) launched in 1999. The FSC served a financial intermediary role in the market. Two years ahead, the Korea Deposit Insurance Corporation (KDIC) had also been established to protect depositors against possible bank defaults and also to arrange for the merging of banks.

Government emphasis on bank restructuring left investment trust companies unregulated. Loans were channeled into the investment trust companies during the economic crisis. For instance, to avoid the credit crunch immediately after the crisis, Daewoo, one of the biggest conglomerates, issued corporate bonds through investment trust companies (ITCs). After the collapse of Daewoo in July 1999, the flow of funds reversed from the ITCs to the banking sector. In 1998 the total assets held by ITCs reached two hundred and fourteen trillion won, which is more than twice that held in the previous year.

D. Bond Markets

Government-issued bonds of the 1980s were normally assigned to the enforcement of NBFIs. After the crisis, the need to meet the BIS capital ratio induced banks to invest in bonds instead of extending loans to corporations. This situation heightened demand for bonds. Credit risks associated with corporate bonds, however, were seen as high after the Daewoo default. The government intervened to normalize the market. Bonds were categorized as junior and senior tranches, in accordance with their credit risks. Junior bonds with high risks were assumed by the KDB, while senior tranches were

more often placed with investors.¹⁴

Bond investments were an immediate government concern in the post-crisis bank restructuring period. Public funds totaling approximately one hundred and forty-seven trillion won were injected into the economy during the period from 1999 to 2002 through bonds issued by the Korea Asset Management Corporation (KAMCO) and the KDIC. KAMCO was in charge of purchasing non-performing loans (NPL) to help normalize financial institutions after the crisis. KAMCO securitized NPLs by issuing asset-backed securities (ABS) and issued approximately seventy percent of all bonds. Introducing impaired assets to the market through ABS issuances helped develop the capital market after the crisis. However, as Oh and Rhee (2002) have noted, despite government efforts, market autonomy was necessary for the creation of future bond markets in which investors would bear the risks, as opposed to the credit subsidization created by government institutions such as the KDB.

In 1998 the government announced measures to develop autonomous bond markets. To set up stable expectations in investors, the government made it a policy to inform the public of the maturity schedules and issuance amounts at the beginning of each year. In 1999, a specialized bond market was established in affiliation with the Korea Exchange market. Another measure served to integrate diverse bonds and establish a leading indicative yield rate for representative bonds. The government promoted the development of the corporate bond market by introducing collateral bond obligations (CBO) and collateral loan obligations (CLO). From 1995 to 1997 the bond market increased by twenty trillion won to thirty trillion won, further jumping to one hundred and ten trillion won by 1998 and six hundred and seventy billion won in 2003, roughly one point two times the 2003 GDP (Rhee *et al.* 2005, pp. 196-7).

E. Stock Markets

Despite the government's push for public stock offerings, the stock market did not operate normally until the latter half of the 1980s. Public enterprises began privatization with the issuance of so-called national stocks. In 1988, Pohang Iron and Steel (POSCO) became the

¹⁴ Interestingly, the KDB allocated loans to target industries in the 1960s and 1970s. Then, some three to four decades later, the role of the KDB changed to the placing of investments in the bond market.

first public enterprise to initiate public offerings. Korea Electric followed with public offerings in 1989. Deregulation allowing foreign ownership in stocks and the introduction of the various forms of financial derivatives after the crisis contributed to a boom in the domestic stock market. The market value of listed companies grew from one hundred and fifty-one trillion won in 1994 to three hundred and fifty-five trillion won by the end of 2003. This doubling in size amounted to sixty-three percent of the GDP.¹⁵ Foreigners owned 40 percent of the market value of listed stocks at the end of 2003. The Korea Securities Dealers Quotation (KOSDAQ) initiated in 1996 was designed to facilitate equity financing in knowledge-based venture corporations, high-tech corporations, and small- to medium-sized enterprises. In addition, by the end of 2003, Korea ranked fifteenth in the world in the size of stock market capitalized values and twelfth in the world in terms of the total value of shares traded at the Korea Stock Exchange (KSE).

Financial derivatives increased in both amount and variety. In 2003 the total value of derivatives trading was one thousand seven hundred eighty-eight trillion won, equal to three point seven times the GDP, and the daily average trading volume in KOSPI 200 futures reached ten thousand eight hundred forty-two billion won.¹⁶ These derivatives are related to currency, interest, and stocks, with currency-related derivatives accounting for ninety-nine percent of the total.

F. Foreign Exchange Markets

Foreign exchange in the 1960s and 1970s was centralized under government control, which severely limited the amount of foreign exchange. The foreign exchange rate was pegged to the U.S. dollar and, periodically, was raised sharply. After doubling following the IRP of 1965, the exchange rate ranged between two hundred and seventy won per U.S. dollar and three hundred twenty won per U.S. dollar from 1974-1979. The won/dollar exchange rate was fixed at four hundred and eighty-four won per U.S. dollar and later raised to six hundred and sixty won per U.S. dollar in 1980. From 1980 to 1990, the foreign exchange rate was managed by the basket system. The market average exchange rate system was applied from 1990 until

¹⁵ Bank of Korea (2004, p. 252).

¹⁶ Bank of Korea (2004, p. 291).

the 1997 financial crisis. Under this system, market exchange rates applied between banks were weighted to yield a market average rate that served as the basis for foreign exchange transactions on the following day. Fluctuations from the base rate were allowed within a certain limit. A limit of point four percent was imposed on the variability of the exchange rate. This limit was gradually increased to ten percent. The exchange rates varied between seven hundred won per U.S. dollar and nine hundred won per U.S. dollar in the 1990s prior to the crisis. After the crisis, the exchange rate was allowed to move freely in accordance with market situations. The government entered into the market only to smooth exchange rates. The exchange market, especially as related to derivatives, expanded substantially after the crisis. The amount of currency-related derivatives traded in 2003 reached one thousand seven hundred sixty-seven trillion won, equal to about three times the GDP.

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