

A HALF CENTURY OF KOREAN ECONOMIC DEVELOPMENT: 1952-2002

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This paper surveys Korea's economic development from 1952 to 2002.

From 1952 to 1962, the overall economy stagnated but massive foreign aid led to import substitution in consumer goods industries.

Korea experienced a spurt during 1963-1979 period under a developmental state that pursued outward-looking development. Korea managed to create more dynamic sectors that could compete internationally, but the cost was also very high.

Korea was in the process of transition from developmental state since the early 1980s up to the breakout of crisis in 1997. There was a liberalization drive, but no building of a workable system across firms, unions, financial institutions and the government. Korea also failed to properly sequence capital market opening.

In the post-crisis period, significant reform has been carried out, but many problems remain unsolved. Some new development strategies have also been envisioned, but there are lingering questions about their effectiveness.

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I. KOREAN ECONOMIC DEVELOPMENT IN PERSPECTIVE

In 1952, South Korea (henceforth Korea) was prostrate, smoldering under the fire of war. In 2002, Korea is reasonably well-to-do, with a living standard comparable to that of lower end advanced industrial countries. If there is a country deserving the term East Asian 'miracle,' it is indeed Korea.

What happened is of course high economic growth: after stagnating about a decade from 1952, Korea's per capita GDP growth took up in 1963 and grew

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by about 7.0% up to 1979, and about 6.5% from 1980 up to 1996. Korea was then hit by a crisis in 1997 and growth has somewhat slowed down, but growth rate remains still high in global standard (see [Appendix Table 1]). Korea's per capita GDP has actually grown fastest in the world in the last forty years, and considering that growth rate worldwide is much higher in the postwar period than in earlier periods, as can be inferred from [Table 1], Korea's growth is the single largest and longest spurt so far in world economic history.

[Table 1] Growth Rate of GDP per capita

(Unit : %)

	1820-1870	1870-1913	1913-1950	1950-1973	1973-1998
Austria	0.85	1.45	0.18	4.94	2.10
Belgium	1.44	1.05	0.70	3.55	1.89
Denmark	0.91	1.57	1.56	3.08	1.86
Finland	0.76	1.44	1.91	4.25	2.03
France	0.85	1.45	1.12	4.05	1.61
Germany	1.09	1.63	0.17	5.02	1.60
Italy	0.59	1.26	0.85	4.95	2.07
Netherland	0.83	0.90	1.07	3.45	1.76
Norway	0.52	1.30	2.13	3.19	3.02
Sweden	0.66	1.46	2.12	3.07	1.31
Switzerland	1.09	1.55	2.06	3.08	0.64
UK	1.26	1.01	0.92	2.44	1.79
Spain	0.52	1.15	0.17	5.79	1.97
Australia	3.99	1.05	0.73	2.34	1.89
Canada	1.29	2.27	1.40	2.74	1.60
USA	1.34	1.82	1.61	2.45	1.99
Argentina	n.a.	2.50	0.74	2.06	0.58
Brazil	0.20	0.30	1.97	3.73	1.37
Mexico	-0.24	2.22	0.85	3.17	1.28
China	-0.25	0.10	-0.62	2.86	5.39
India	0.00	0.54	-0.22	1.40	2.91
Indonesia	0.13	0.75	-0.20	2.57	2.90
Japan	0.19	1.48	0.89	8.05	2.34
Korea	n.a.	n.a.	-0.40	5.84	5.99
Malaysia	n.a.	n.a.	1.50	2.18	4.16
Singapore	n.a.	n.a.	1.50	4.40	5.47
Taiwan	n.a.	n.a.	0.61	6.65	5.31
Thailand	n.a.	0.39	-0.06	3.67	4.91
Egypt	n.a.	n.a.	-0.05	1.54	2.98

Source: Maddison(2001).

The reason is obvious: Korean economic development is a late industrialization in the twentieth (and twenty first) century. Like the late industrialization in the earlier period, it has been achieved through borrowing technology and capital from advanced countries. Korea in the early 1960s had a much larger technological backlog to borrow from than the continental European countries or Japan in the nineteenth century. In the nineteenth century, the gap of per capita GDP between early starter like Britain on the one hand and latecomers like continental European countries or Japan on the other was at most one to three or one to four on purchasing parity basis.¹ But Korea in 1960 had per capita GDP equivalent to 9.8% of that of the US (Maddison 2001).

To the extent that the per capita GDP represents the accumulation of knowledge and technology, the larger gap means a greater technological backlog to borrow from.

Of course, a larger technological backlog alone means no more than a greater 'potential' for growth. 'Realizing' this potential is virtually the whole story of economic growth for latecomer countries. In the nineteenth century, many countries aspired to realize that potential, but only a few succeeded. In the twentieth century, again many have tried, but only a few East Asian countries including Korea have managed to come to the doorstep of succeeding.

What factors account for this success? Recently, cross-country quantitative studies have supplied some determinants of growth rates, or the way the potential has been realized for latecomer countries in the postwar era. Sound macroeconomic policy, heavy investment in education, and political stability which was in turn achieved through relatively equitable distribution of income, have led to high economic growth. East Asian countries like Korea nicely fits this criterion (Barro 1991; Collins and Bosworth 1996; Radelet et al. 2001).

These factors, however, again provide only 'potential' for growth in a more strict sense. They do not, first of all, explain why Korean economy suddenly began to spurt in the early 1960s. Unfortunately, here consensus among economists apparently breaks down. 'Neoclassical' or 'market friendly' view insists that the switch to outward-looking development strategy, and a more market-conforming policy in general, is responsible for the take-off. On the other hand, 'revisionist' view contends that the active involvement of the government accounts for the great spurt.²

There is no denying that an early switch towards outward-looking development

¹ According to Maddison (2001), in 1870, when the UK's lead over other countries was close to being the largest, France, Germany and Japan had per capita GDP equivalent to 59%, 57% and 23% of the UK's.

² For typical neoclassical views, see Krueger (1978) and Balassa et al. (1982); for revisionist views see Amsden (1989) and Wade (1990). Neoclassical economists have come to acknowledge heavy government intervention in East Asia so they have switched to 'market friendly' view. See World Bank (1993). Some neoclassical economists still stick to the previous view (e.g., Krueger, 1997).

strategy contributed to the take-off of the Korean economy. It now seems clear that inward-looking development, initiated by the Soviet Union and Latin America in the inter-war period and emulated by most developing countries in the postwar period, is an aberration in history. That aberrations came from the crisis of the capitalist system in the first half of the twentieth century, manifested in the Great Depression and two great wars. On the contrary, long postwar boom (see [Table 1] and Maddison 1991, 2001) has made inward-looking development anachronistic. Anyway, it is difficult to imagine that a latecomer country can develop without having an open attitude towards foreign trade, technology and capital. Simply comparing South and North Korea is enough on this score.

However, on the basis of recognizing the benefit of early switch to outward-looking development, it is also apparently difficult to deny that government intervention played some positive role in the great spurt in Korea. More fundamentally, the emergence of a politico-economic system summarized as the 'developmental state,' which placed the goal of economic development above all other values, should be responsible.

Positive role of the state is consistent with the historical experience of previous industrialization. Historically, aside from the matter of degree, few countries succeeded in industrialization without relying on government intervention in one way or another in its early phase. Even Britain depended on mercantilist policy to catch up with Holland in the seventeenth century. For the nineteenth century, the scheme of Alexander Gerschenkron (1962, 1968a), a description *par excellence* of the pattern of European industrialization, tells that latecomer countries depended on the active role of the state. Though many aspects of Gerschenkron's scheme has not stood the test of time well (see Sylla and Toniolo 1991), the relevance of government role for European countries except for smaller one like Denmark and Finland is vindicated (Crfats 1984). The US also took various protective and promotive measures when it was a latecomer country in the nineteenth century (see Bairoch 1993: Chapters 3,4; Kozul-Wright 1995).

On the other hand, Gerschenkron's typology also strongly suggests that market will supersede the role of the state as industrialization proceeds. Like any mercantilism that appeared in history, East Asian neo-mercantilism should give way to liberalism. However, the transition from government intervention to market mechanism is no simple matter. A new industrial-financial system to replace the role of government cannot be built simply by withdrawing some role of the government. Market mechanism, especially the financial institutions as we see in the advanced countries today, is the result of centuries of evolution. The transition thus comprises a phase of struggle after the breakthrough in industrialization is made. The trouble faced during this transition stage seems sometimes more difficult to overcome than achieving the breakthrough itself in many latecomer countries. And this apparently is the reason why Korea was

drawn into crisis in 1997 and is still struggling to avoid another one.

Explaining Korean economic development in terms of outward-looking development, government intervention, and the transition therefrom inevitably involves the issues of international economic relations. Even before embarking on outward-looking development in the early 1960s, Korea heavily benefited from foreign aid, especially grants-in-aid from the US. And it is now well-known that East Asian countries' outward-looking development owed much to the liberal international economic order in the postwar period. Moreover, Korea could enjoy the asymmetrical relationship with Western countries, notably the US, which, while itself pursuing liberal policy, allowed developing countries to take neo-mercantilist measures like protection, subsidy and regulation. From the early 1960s to the mid-1980s, the US and other western countries were willing to allow that asymmetric relationship under the Cold War political order. The US could also afford it on the basis of its overwhelming economic prowess in the world economy.

Given that the government played some positive role in the earlier phase of industrialization, that asymmetrical relationship should have provided a favorable condition for Korean economic development. However, as the East Asian miracle unfolded itself, international economic order changed. Developed countries were no longer willing to allow the asymmetrical relationship from the mid-1980s. The US in particular could not afford it simply because of the relative decline in economic capability. The Cold War political order also collapsed.

The new situation led to market opening for Korea. Like domestic liberalization, however, market opening was no simple matter, especially when it came to its complicated relationship with domestic liberalization. Meanwhile, from the 1980s the world economy saw extensive globalization of multinational corporations, and, much more importantly, explosion of short-term capital movement under global deregulation. When Korea failed to adapt to changing conditions, the crisis was in order.

After the crisis broke out, Korea has been struggling with shorter-run task of curing the causes of the crisis and longer-run problem of finding a new development strategy. Though Korea is often appreciated overseas as a paragon of successful reform among the crisis-hit countries, there are mountains of problems to be addressed.

Bearing the sketch of the broader scope of looking at Korean economic development given above in mind, the rest of the paper will divide the last half century into the following four phases and look into each in turn:

Stagnation and Import Substituting Industrialization: 1952-1962

Spurt under Developmental State: 1963-1979

Transition and Crisis: 1980-1997

Reform and Beyond: 1998-2002

II. STAGNATION AND IMPORT SUBSTITUTING INDUSTRIALIZATION: 1952-1962

Growth rate of per capita GDP during this period, judging from the 1954-62 figures, for which data appear in the [Appendix Table 1], is 0.9%, which is indeed low considering that Korea was recovering from the devastation by the war. However, this was mainly due to the stagnation of agriculture. Manufacturing sector grew by a respectable 11.7% during 1954-62 period, and Korea underwent typical import-substituting industrialization with light manufacturing industries like cotton textiles, sugar, and flour -- so called 'three white' industries -- during this period.

Import substituting industrialization was financed by foreign aid, mostly grants-in-aid from the US. As a country at the forefront of the Cold War, Korea received more than four billion dollars of economic aid, and between 1953 and 1962, aid accounted for 77 percent of gross investment and 70 percents of imports on average each year. Since a large part of aid was composed of food, foreign aid was making up for the stagnation of agriculture. Viewed in the other way around, agriculture was stagnating due to the massive inflow of surplus agricultural products through aid.

As a result, in Korean industrialization, the role of agriculture in industrialization -- supplying food, capital, market, and foreign exchange -- is missing: it was replaced by that of foreign aid. This made Korea an exception to the cases of successful industrialization up to that time.³

With the benefit of hindsight, it can be said that this was not a bad thing for Korea. With foreign aid, Korea could dispense with the possible pressure on the consumption levels of people in the early phase of industrialization. which, for example, Gerschenkron (1968b) pointed to as the main cause of the Russian Revolution. Gerschenkron's assertion may again be questioned (Gatrell 1986; Munting 1996), but the fact remains that Korea could pursue some degree of industrialization without putting pressure on the consumption level of the people, especially rural population. Together with land reform, which had been initiated through the turbulent years between 1945 and 1950, foreign aid contributed critically to bringing political stability into the rural area in the early phase of industrialization.

This period also saw an explosive increase in education at all levels, as shown in [Table 2]. That was probably made possible by the maintenance of consumption levels of the majority of the population, which in turn owed to the access to foreign aid and implementation of land reform.⁴ Improvement in

³ See Bairoch (1969) for the role of agriculture in industrialization of Britain and European countries. The role of agriculture is obvious for the US industrialization. The role of agriculture in industrialization in Meiji Japan is also well-known (Ohkawa and Rosovsky 1973: Chapter 3).

⁴ Korea also received about nine billion dollars of military aid, which had large externalities on the Korean economy through training technical personnel in the military.

education during this period (and further improvement subsequently) should have provided an important ground for economic development.

There were, however, darker sides to the aid-financed industrialization. Aid deprived Korean government of the will to mobilize domestic resources and promote exports on its own. Instead, often the only government policy was to obtain more aid. This meant that, when foreign grants-in-aid was drying up later, Korea found itself in a chronic balance of payment (current account) deficit, which had to be filled with massive inducement of foreign loans. This continued to be the case up to the mid-1980s (see [Appendix Table 2]).

Aid was also distributed in a very corrupt way, priority given to the businessmen close to the government. Together with the distribution of vested properties inherited from the colonial era, this made the origin of 'crony capitalism' in Korea, and became the bases for the subsequent domination of the Korean economy by chaebol.

[Table 2] Number of School Enrollment

(Unit: 1,000 ; %)

	1945	1952	1960	1970	1980	1990	2000
Elementary school	1,336.0 (56.4)	2,369.9 (100.0)	3,662.7 (154.6)	5,749.3 (242.6)	5,658.0 (238.7)	4,868.5 (205.4)	4,020.0 (169.6)
Junior high school	50.31 (14.3)	291.6 (100.0)	528.6 (181.3)	1,318.8 (452.3)	2,472.0 (847.7)	2,275.8 (780.5)	1,860.5 (638.0)
High school	50.31 (14.3)	59.4 (100.0)	164.5 (276.9)	315.6 (531.3)	932.6 (1570.0)	1,473.2 (2480.1)	1,324.5 (2229.8)
High school (vocational)	33.2 (44.6)	74.5 (100.0)	99.1 (133.0)	275.0 (369.1)	764.2 (1025.8)	810.7 (1088.2)	74.7 (100.3)
College, technical college and beyond	7.8 (22.9)	34.1 (100.0)	101.0 (296.2)	193.6 (567.7)	597.9 (1,753.4)	1,466.9 (4,301.8)	2,829.0 (8,296.2)

Notes: 1) There was no distinction between junior high school and high school up to 1945.

2) Figures in the parentheses are percentage to 1952.

Sources: Ministry of Education and National Statistical Office.

III. SPURT UNDER DEVELOPMENTAL STATE: 1963-1979

1. Korean Developmental State

Growth rate of Korea's per capita GDP suddenly jumped from -0.6% in 1962 to 6.2% in 1963. Though it was mainly accounted for by the recovery from the disastrous agricultural production in 1962, which accounted for about 40% of GDP at that time, high growth was sustained thereafter.

After taking power through military coup in 1961, President Park Junghee

wanted to build a state modeled after Japan's prewar and postwar developmental state. That was what he had been familiar with through his youth, including the period as an officer in Japanese imperial army. More importantly, Japan was making the best example of catch-up growth in the postwar period. Under President Park's quasi-authoritarian and subsequently authoritarian regime, Korea became a 'hard state,' being able to implement a policy once it was decided.

President Park's government initially tried to move to the second stage import-substituting industrialization, but soon switched to export-oriented, or more generally, outward-looking development. Exports as a percentage of GDP rose rapidly through the 1960s and early 1970s (see [Appendix Table 2]). Korea promoted exports of light manufacturing goods that had been established under the import-substituting industrialization in the previous period. The switch was probably the feature of economic policy that distinguished Korea -- and other members of the 'Gang of the Four' -- most from other developing countries in the 1960s. The orthodoxy then was still inward-looking development strategy.

Why did Korea deviate from orthodoxy? The answer is simple: there was no alternative. By the late 1950s there had already been a consensus among Korean businessmen and government officials that the only way to cope with dwindling foreign aid was promoting exports. The major stumbling block was that the US, whose utmost priority was reviving the Japanese economy, was prohibiting Korean goods from competing with the Japanese goods in the US soil. But in the 1960s the US decided to encourage rather than discourage developing countries' exports to its own market (Woo 1991: Chapters 3, 4).

By switching to outward-looking development, Korea could enjoy the benefits that developing countries still sticking to inward-looking development strategy had to forgo:

First, Korea could avoid the 'stop-go' pattern of economic growth because of the recurring shortage of foreign exchange observed in import-substituting industrialization.

Second, increasing export earnings enabled Korea to continue borrowing from international capital market to replace decreasing foreign aid.

Third, export introduced market discipline on Korean firms, by providing ultimate standard of performance.

Fourth, outward-looking development was accompanied by heavy learning and modernizing effect. A lot of 'know-hows,' 'soft technology,' and new attitudes of life were transferred by foreign (that is, advanced countries') buyers, sellers and investors. This was probably the most important effect of outward-looking development, which was quickly pointed out by Keesing (1967), but actually can be traced back to the elaboration by John Stuart Mill (1965: 581-2) in the nineteenth century.⁵

⁵ See Rohwer (1995) for elaboration of detailed evidences in this context. Outward-looking development turns out to have only mixed results in cross-country quantitative studies on growth

Moreover, Korea could benefit from the timing of the switch to export-oriented growth. As could be inferred from [Table 1], in the 1960s, advanced industrial countries were undergoing an unprecedented boom, and Korea, together with other members of the 'Gang of the Four,' were only a small minority among developing countries to switch to outward-looking development. They thus apparently enjoyed some 'quasi-rent.'

However, Korea's policies chosen under outward-looking development strategy was far from market-friendly. While vigorously promoting exports, Korea protected whatever legacy of previous import-substituting industrialization, so only exports and inputs thereof were liberalized. And, like Japan in earlier times, Korea pursued an aggressive industrial policy targeting more dynamic sectors of industry. This already began in the 1960s and culminated in the 'heavy and chemical industrialization' drive in the 1970s.

As mentioned in Section I, the active state role is in line with historical experience of previous industrialization. But there is no lack of theoretical ground either, though Korean government never presented or even had in mind a clear idea about that.

Contrary to the old international division of labor, outward-looking development in the postwar period was based on export of labor intensive manufactured goods to developed countries. While absorbing this export has been a sensitive political issue in developed countries, developing countries are not without their own problems. The persuasive defense of liberal policy towards imports of unskilled labor intensive goods in developed countries has been that workers earn higher wages in export industries than in import competing ones (Bergsten 1997). This means that, as a corollary, developing countries pursuing outward-looking industrial strategy cannot be satisfied with the static international division of labor, i.e., specialization on unskilled labor intensive products. They have to avoid being 'locked in' with low skill intensive products.

Of course, as the economy grows, owing to the dynamics created by the outward-looking development, human resources will be upgraded through experience, learning, and education. Firms will also demand higher quality human resources, planning investment taking the future trend of the economy as well as the present one into consideration. Growing faster and pursuing more profit by investing in more dynamic sectors of the economy is the inherent objective of capitalist firms.

Problem arises only when private enterprise cannot do that, that is, when market fails. This is indeed the case with infant industry argument, the venerable theoretical ground for industrial policy. If future benefit of an infant industry outweighs current cost, there is no reason that private enterprises should not

(see, for example, Barro 1991; Sachs and Warner 1995). Relying on simple measure of openness as a proxy of outward orientation, however, the cross-country analysis apparently does not tell much about the detailed mechanisms.

invest. Only some discrepancy between private and social cost and benefit justifies government intervention. The sources of market failure in developing countries often cited include, first of all, the very shortage of entrepreneurial ability to take risk and do long term investment, or the lack of the social institutions to make it be realized. Sometimes entrepreneurs may be willing to invest, but they may be unable to find sources of finance because of capital market imperfections (Corden 1974; Stiglitz 1989). Or the firms starting business early may be unable to appropriate the benefit of investment, notably in areas such as information creation and labor training. Complementarity of investment through externality also necessitates investment to take the form of 'big push' (Murphy et al. 1989).

Actually, the measures taken by Korean government in the 1960s and 1970s could be justified by these sources of market failure. The government targeted infant industries, apparently believing that it had a better entrepreneurial foresight than the private sector. The government restricted entry and selected the businessmen to take care of the targeted industries. Since the selected came from existing businessmen, the government industrial policy encouraged the diversification of firms, or the establishment of chaebol in a full-fledged form. This policy aimed at utilizing the limited talent of entrepreneurship more intensively and creating internal capital and labor market for long term investment. The restriction of entry could also be justified in terms of compensating early starters for the externality they created, as well as the narrowness of domestic market.⁶

There was a wide-ranging protection. Up until the late 1980s, import for domestic sales of virtually whatever was produced domestically was not allowed. [Table 3] summarizes effective rate of protection for Korean industries. It has been recognized that the level and variation of effective rate of protection for Korean industries during the developmental era were not lower than that for typical developing countries under import substituting industrialization strategy (Balassa 1982).⁷

Liberal tax credit was extended to infant industries for the same reasons. According to Kwack (1985), effective corporate tax rate on policy favored industries -- chemicals, primary metals, machinery and transportation equipment -- averaged at 27.0% from 1970 to 1983, while that on other industries was 44.3%.

⁶ For the description of policies that Korean government undertook in this respect, see Jones and Sakong (1980).

⁷ A question arises here how high effective protection of domestic market is compatible with export promotion under outward-looking development. The answer is that exports and inputs for exports were liberalized, while domestic sales and inputs for domestic sales were protected. Korea thus had a two-tier system of protection during this period. Overall, effective protection was higher for domestic sales, but export subsidies somewhat made up for the difference.

[Table 3] Effective Rate of Protection: Manufacturing Sector

(Unit : %)

	1963	1970	1975	1980	1985	1990	1995
Processed food	13.2	25.1	17.4	-15.7	-49.4	-40.7	-38.1
Beverage and tobacco	47.6	-8.7	-24.5	-6.4	-13.0	-21.7	-29.0
Construction materials	7.9	33.1	-3.8	44.9	34.0	34.0	26.9
First-order intermediate goods	38.8	-12.8	-16.9	-22.2	-37.4	-37.0	-15.6
Second-order intermediate goods	31.8	29.5	15.2	28.5	20.1	24.8	13.3
Non-durable consumer goods	2.5	18.8	-27.6	36.1	33.0	11.2	6.4
Durable consumer goods	121.0	100.7	52.6	55.3	13.1	25.1	10.8
Machinery	36.9	76.9	-0.1	62.6	23.2	24.2	10.9
Transportation equipment	23.0	110.0	25.6	99.1	46.7	49.3	18.8
(Average)	17.1	19.3	-3.8	28.2	11.2	9.8	4.0
(Standard deviation)	35.3	44.6	26.1	40.1	33.5	32.6	22.5

Notes: 1) Calculated by Corden method for domestic sales.

Sources: 1963, 1970 figures are from Kim and Hong (1982) and figures from 1975 are from Hong (1997).

The most important source of subsidy, however, was financial. The government subjugated financial sector to industrial policy and carried out credit rationing. There were many 'policy' or 'preference' loans that carried interest rates far below market-clearing one. [Table 4] presents interest rates on various loans by depository money banks and Korea Development Bank during the developmental state era and several years thereafter. Among them, loans for machine industry development and loans with National Investment Fund, the latter of which was set up to support heavy and chemical industrialization drive in the 1970s, were preference loans used for the purpose of targeting particular industries. Loans by Korea Development Bank were for investment in public utilities, infrastructure, and for supporting strategic (thus targeted) industries.

[Table 4] also presents interest rate on curb market loans and 'reference interest rate.' As a result of credit rationing, there emerged a large curb market that carried of course much higher interest rate than market clearing one. 'Reference interest rate' is calculated as growth rate of GDP plus increase rate of consumer price index to approximate market-clearing rate. As can be seen from the table, the largest credit subsidy was provided to trade, notably exports, but apparently other preference loans also included a large element of subsidy.

[Table 4] Interest Rates during Developmental State Era and After

(Unit : %)

Year	Depository money bank loans				Korea Development Bank loans	Curb market loans	Reference interest rate ¹⁾
	Discount on commercial bills	Loans for trade	Loans for Machine Industry Promotion	Loans with National Investment Fund			
1961	13.9	13.9	n.a.	n.a.	n.a.	n.a.	10.1
1962	13.9	12.7	n.a.	n.a.	8.4	n.a.	11.0
1963	13.9	9.1	n.a.	n.a.	8.3	n.a.	17.2
1964	14.0	6.8	n.a.	n.a.	8.4	61.8	25.3
1965	16.5	6.5	n.a.	n.a.	9.6	58.9	28.6
1966	24.0	6.5	n.a.	n.a.	13.0	58.7	26.9
1967	24.0	6.3	n.a.	n.a.	13.1	56.7	20.3
1968	24.3	6.0	12.0	n.a.	13.1	56.0	21.2
1969	25.2	6.0	12.0	n.a.	14.7	51.4	21.9
1970	24.3	6.0	12.0	n.a.	14.5	50.2	23.9
1971	22.9	6.0	12.0	n.a.	14.4	46.4	23.9
1972	17.7	6.0	10.1	n.a.	13.1	39.0	20.7
1973	15.5	6.6	10.0	n.a.	12.8	33.2	18.0
1974	15.5	8.9	11.1	9.2	12.7	40.6	21.2
1975	15.3	7.6	12.0	12.0	12.9	47.6	26.3
1976	16.3	7.4	12.4	12.8	13.1	40.5	30.0
1977	16.7	8.0	13.0	14.0	13.6	38.1	26.1
1978	17.8	8.5	14.1	15.1	13.9	41.7	23.3
1979	18.8	9.0	15.0	14.7	13.9	42.4	23.0
1980	24.1	14.8	20.2	18.2	18.7	44.9	25.1
1981	19.4	15.0	17.9	16.4	17.1	35.3	26.6
1982	12.3	10.8	12.1	12.2	12.7	33.1	22.9
1983	10.0	10.0	10.0	10.0	n.a.	25.8	18.8
1984	10.3	10.0	10.0	10.7	n.a.	24.8	13.0
1985	10.8	10.0	n.a.	10.8	n.a.	24.0	11.2
1986	10.8	10.0	n.a.	10.5	n.a.	23.1	11.1
1987	10.8	10.0	n.a.	n.a.	n.a.	23.0	12.2
1988	n.a.	n.a.	n.a.	n.a.	n.a.	22.7	15.1

Note: 1) Reference interest rate is calculated as growth rate of GDP plus increase rate of consumer price index (three-year average).

Sources: Krueger and Yoo(2001).

The government also built industrial parks and distributed factory sites to the first entrants at a subsidized rate to internalize externality. In Korea, until the early 1980s, a businessman could be arrested on the charge of snatching workers from other businessmen, that is, for stealing the training cost.⁸ And under the quasi-authoritarian and authoritarian government, labor activism was thoroughly repressed.

The whole economic system could thus be said to be geared to industrial policy. Not only trade policy but also fiscal policy, financial system, industrial organization, industrial relations, and regional development policy were involved. The 'developmental state,' a concept proposed by political scientists or sociologists without giving rigorous theoretical ground (Johnson 1982; Weiss and Hobson 1995), could be elaborated upon by this system with industrial policy at its core.

2. The Performance of Developmental State

The real issue with Korea's industrial policy is not whether its theoretical ground exists, nor whether government actually intervened.⁹ The issue now is whether the intervention made any difference, that is, it brought about the intended effect of fostering infant industries to their maturation and growth. The empirical study by the World Bank (1993: Chapter 6) suggests that Korean infant industries did not mature nor grow faster than mature ones. A more elaborate study by Lee (Jong-Wha Lee 1966) shows that tariff and non-tariff barriers have impeded productivity growth and thus infant industries have not matured. However, my own study (Jaymin Lee 1997) reveals that Korean infant industries have indeed tended to mature and grow. [Table 5] presents some estimation results for the growth rate of total factor productivity and output for heavy and chemical industries, which used to be infant industries once targeted by industrial policy, and light industries not targeted. The former has tended to experience higher, if by a small margin, productivity growth as well as higher output growth than the latter.

Korean developmental state thus managed to achieve not only high growth rate but also a rapid structural transformation. The corollary of the maturation and growth of infant industries is the emergence of quite a few large Korean (mostly chaebol) firms as an effective competitor in some mid-to-high-technology

⁸ It may be doubted here that the policies taken were first-best, directed at the sources of market failure themselves. For example, it is well known that protection is only a second-best policy to cope with domestic distortions like externality or capital market imperfections. For its convenience in implementation, however, protection is actually very often used, especially at an early stage of industrialization. The same is true for other measures of government intervention.

⁹ This can be easily seen from the fact that the opponents of industrial policy backed away from their original 'neoclassical' to 'market friendly' view, admitting the fact of government intervention. See World Bank (1993).

industries like automobile, iron and steel, ship building, semi-conductors and petro-chemicals in a short span of time. In other words, Korean industrial strategy aimed at fostering 'national champions' able to become global players in high-technology industries eventually, not niche players or international subcontractors. In this respect, Korea made a contrast with Southeast Asian countries or Taiwan, and more strictly resembled Japan in earlier time.

[Table 5] Estimates of Growth Rate of Total Factor Productivity (TFP) and Output: Manufacturing Sector

(Unit : %)

Authors	Method	Periods	TFP or Output	All industries	Light industries	Heavy and chemical industries
Kim and Hong (1992)	Growth accounting ¹⁾	1967-77	TFP	3.42	3.31	3.57
			Output	23.63	20.98	27.51
		1977-88	TFP	0.61	0.58	0.64
			Output	13.17	10.38	15.55
		1967-88	TFP	1.94	1.87	2.02
			Output	18.03	15.30	21.09
	Production function ²⁾	1967-88	TFP	1.39	1.30	1.46
			Output	18.03	15.30	21.09
Hong and Kim (1996)	Growth accounting	1967-79	TFP	2.55	2.32	2.89
		1979-93	TFP	1.00	0.97	1.01
		1967-93	TFP	1.71	1.59	1.87
			Output	15.80	12.99	18.23
	Production function	1967-79	TFP	2.20	1.99	2.28
		1979-93	TFP	1.08	1.03	1.11
		1967-93	TFP	1.65	1.58	1.70
			Output	15.80	12.99	18.23
Korea Productivity Center (2001)	Production function	1980-90	TFP	0.67	0.47	0.80
			Output	12.09	8.73	14.47
		1990-97	TFP	1.76	1.41	1.93
			Output	10.19	3.88	13.02
		1997-00	TFP	-1.70	-1.97	-1.61
			Output	2.48	-0.27	3.41
		1980-00	TFP	0.70	0.43	0.83
			Output	9.98	5.69	12.30

Notes: 1) Estimation of TFP by subtracting weighted average of inputs from output.

2) Estimation of TFP using translog production function.

This achievement, however was accompanied by its share of cost. The real dark side of industrial policy was not that it failed to bring the intended effect but that the cost involved may have been too large. Entry restriction, credit rationing, protection (through quantitative import restriction), and fiscal subsidies provided room for rent-seeking activities, and thus entailed political corruption through the formation of a symbiotic relationship between government and business, or 'crony capitalism.' Under the dominance of chaebol, small and medium enterprises languished, often falling the victim to the predatory behavior by chaebol firms.

The largest cost, however, was inflicted upon the financial sector. Though credit rationing as a means of industrial policy was not without theoretical ground, Korea's financial repression as shown in [Table 4] was apparently far beyond the degree that could be justified on that ground. It was apparently much more than the 'financial restraint,' which Japan had employed earlier for industrial policy purpose (Hellman et al. 1997).

Artificially low interest rate under financial repression of course laid a fertile ground for rent-seeking activities, and Korean firms naturally became highly leveraged. It also led to low profitability of firms (see [Appendix Table 3] for high indebtedness and low profitability of Korean firms). Since size mattered as a means to get an access to credit, firms paid more attention to enlarging size than raising profitability. One method to enlarge size was diversification, so diversification of firms also proceeded beyond the level justified by the theoretical ground for industrial policy. [Table 6] shows that net income to stockholders' equity (ROE) of Korean manufacturing firms was sometimes lower than nominal interest rate actually paid by the firms during this period. ROE also almost always fell short of 'reference interest rate' that may approximate market-clearing interest rate. Only owing to double digit inflation, ROE could be consistently higher than real interest rate. Since net income to stockholders' equity is calculated after adjusting for capital gains, though conservatively, it should be higher than nominal interest rate paid or more preferably reference interest rate, even when the higher risk is not taken into account. Net income to stockholders' equity lower than either of them and higher than only real interest rate paid is thus hardly normal.

Banks, which were the main channel of credit rationing, were unable to perform their proper role of evaluating and monitoring firms, even though low profitability of highly indebted firms would end up as non-performing loans (henceforth NPL) for themselves. They were reduced to the status of mere cashier, disbursing loans to those who had got prior approval from the government. This resulted in their chronic underdevelopment, being unable to develop their own managerial entity as a business. Once a firm grew large enough to join the ranks of chaebol, it was believed that the government would not allow the firm to go bust: "too big to fail." As a result, chaebol could expect that they may not bear the cost of capital themselves. If investment

[Table 6] Firm Profitability and Interest Rates Paid: Manufacturing Sector

(Unit : %)

Year	Net income to stockholders' equity (A)	Interest expenses to total borrowing		(A)-(B)	(A)-(C)	(A)-(reference interest rate)
		Nominal (B)	Real ¹⁾ (C)			
1963	18.8	n.a.	n.a.	n.a.	n.a.	1.6
1964	15.0	n.a.	n.a.	n.a.	n.a.	-10.3
1965	15.3	n.a.	n.a.	n.a.	n.a.	-13.3
1966	16.9	19.3	1.7	-2.4	15.2	-10.0
1967	17.0	18.1	6.2	-1.1	10.8	-3.3
1968	16.1	14.8	3.8	1.3	12.3	-5.1
1969	13.6	13.4	2.1	0.2	11.5	-8.3
1970	10.7	14.7	1.7	-4.0	9.0	-13.2
1971	4.5	13.3	-0.6	-8.8	5.1	-19.4
1972	16.7	12.0	-1.7	4.7	18.4	-4.0
1973	30.0	8.5	-0.9	21.5	30.9	12.0
1974	16.3	10.5	-2.5	5.8	18.8	-4.9
1975	11.7	11.3	-6.3	0.4	18.0	-14.6
1976	14.9	11.9	-9.7	3.0	24.6	-15.1
1977	12.3	13.1	-3.8	-0.8	16.1	-13.8
1978	12.5	12.4	-0.9	0.1	13.4	-10.8
1979	8.8	14.4	0.1	-5.6	8.7	-14.2
1980	-7.3	18.7	-1.8	-26.0	-5.5	-32.4
1981	-5.2	18.4	-4.4	-23.6	-0.8	-31.8
1982	0.2	16.0	-3.1	-15.8	3.3	-22.7
1983	9.6	13.6	3.0	-4.0	6.6	-9.2
1984	6.8	14.4	10.1	-7.6	-3.3	-6.2
1985	5.8	13.4	10.7	-7.6	-4.9	-5.4
1986	10.9	12.5	10.0	-1.6	0.9	-0.2
1987	10.7	12.5	9.7	-1.8	1.0	-1.5
1988	10.2	13.0	8.7	-2.8	1.5	-4.9
1989	6.4	13.6	8.3	-7.2	-1.9	-6.8
1990	5.6	12.3	5.2	-6.7	0.4	-10.1
1991	5.6	13.0	5.1	-7.4	0.5	-10.9
1992	3.7	12.3	4.3	-8.6	-0.6	-9.0
1993	4.2	11.2	4.4	-7.0	-0.2	-7.0
1994	7.6	11.4	5.6	-3.8	2.0	-5.2
1995	11.0	11.7	6.5	-0.7	4.5	-6.4
1996	2.0	11.2	6.0	-9.2	-4.0	-8.6
1997	-4.2	10.6	6.0	-14.8	-10.2	-13.3
1998	-15.9	13.5	6.0	-29.4	-21.9	-14.0
1999	0.0	11.5	10.7	-11.5	-10.7	-15.3
2000	-5.8	10.5	8.2	-16.3	-14.0	-12.1
2001	0.0	9.4	5.3	-9.4	-8.1	n.a.

Note: 1) Real interest rate was calculated by subtracting increase rate of consumer price index from nominal rate.

Source: the Bank of Korea, Financial Statement Analysis.

succeeds, it is their achievement. If not, banks will give more money.

Now the problem was not the under-investment due to market failure in the early phase of industrialization, but rather over-investment on over-borrowing. This led to sporadic financial crisis. In the early 1970s, firms which had induced foreign loans in the late 1960s went insolvent, and the government bailed them out with an Emergency Decree in August 1972. A large amount of NPL created through heavy and chemical industrialization in the 1970s was resolved through the massive 'restructuring' of firms and banks in the mid-1980s.

A question is inevitable here: how did Korea grow so rapidly, or more specifically, how did Korean infant industries manage to mature and grow in spite of the prevalent rent-seeking activities and ailment of firms and banks? The answer is that Korean developmental state had its own disciplining mechanism, though in a form quite different from that found in advanced industrial countries.

The factors that enabled Korean developmental state to work, or the mechanism that made Korea infant industries mature and grow, were apparently as follows:

First, export subsidy and price discrimination of large firms made 'infant industry exports' possible, which entailed intensive learning (Westphal 1982).

Second, there was effective competition in protected domestic market where firms, notwithstanding the industry or aggregate level concentration, exhibited highly rivalrous behavior (Amsden and Singh 1994).

Third, and most importantly, the government created an 'effective contest.' In Korea, contrary to most developing countries, subsidies and protection were not handed out for free without some performance standard attached. Export was the ultimate criterion of performance for the contest (World Bank 1993: Chapter 6; Wade 1995). A large proportion of trade-related credit, which carried the lowest interest rate as shown in [Table 4], was subsidy for exports which worked as a mechanism of imposing market discipline.

In other words, the government promoted infant industries and then utilized product market, especially export market, as a disciplining mechanism to ensure their maturation and growth. In addition, the government somewhat made up for the lack of discipline that should have been imposed on firms by the financial sector. Government control of entry more or less ensured that firms earn some margin over the real, if not nominal, interest rate paid, as shown in [Table 6]. The government could order larger firms to reduce capacity where it saw the necessity, that is, to adjust for 'over-investment.' Under the executive style state up to 1987, exit of large firms, once it was decided that they were still not "too big to fail," was rather quick and easy: the will of the ruler virtually prevailed over any other institutional arrangement, including the court decision. These practices should have had some effect of checking NPL from going out of hand.

The ability to 'govern' the market this way apparently came from the 'hard

state' nature of Korean developmental state, able to implement policy once it was decided. Political authoritarianism or quasi-authoritarian up to the mid-1980s helped.

Internationally, Korean developmental state was tolerated or supported by developed countries up to the early 1980s. Multilaterally, the asymmetrical relationship between developed and developing countries with regard to infant industry promotion had been written into GATT code. Bilaterally, the US, and to a less extent other Western countries, given their overwhelming economic prowess over developing countries and the preoccupation with Cold War politics, were willing to tolerate the asymmetric relationship. During this period, developed countries were also quite liberal in transferring technology.

Of course, the US, and international organizations such as the World Bank under its influence, were often not so favorable to Korea's serious departure from static comparative advantage. One example is their reluctance to provide credit for the construction of Pohang Iron and Steel Company (POSCO). But their opposition was short of stopping Korean government's effort to find other source, notably Japan.¹⁰

IV. TRANSITION AND CRISIS

1. Liberalization Drive

Korean industrial strategy had its positive and negative sides. So far, as far as I know, no systematic method has been devised to balance its cost against benefit. It is apparently clear, however, that the cost-benefit relationship changes over time: government intervention may be warranted in the earlier phase of industrialization, but cost comes to outweigh benefit as the economy grows. It is difficult to imagine that a country will depend heavily upon government interventions and still do well beyond some initial phase, though, of course, how soon that 'initial' phase ends is by no means clear. So the role of government in Korea and other East Asian countries should indeed be 'market-enhancing' over time (Aoki et al. 1997).

Korea's move towards liberalization began in the early 1980s out of the reflections on the excesses of heavy and chemical industrialization in the 1970s. The move was reinforced by the demand from developed countries for market opening. The government declared in 1986 that it would cease targeting particular industries, industrial policy moving to functional purposes such as promoting exports, R&D efforts, and small scale enterprises.

Entry barriers were lifted, though *de facto* situation was often different from the official position of the government. Financial repression was alleviated over

¹⁰ Korea used reparation and loans by Japan to build steel complex in Pohang in the 1960s. See Woo (1991: 88) and Stern et al.(1995: 19).

time, to allow real interest rate to become closer to market-clearing rate, reducing credit subsidy for infant industries and exports alike (see [Table 4]). Financial sector was declared to be no longer subjugated to industrial policy. The same was true for fiscal policy.

As a result of continuous cut-back, by the early 1990s, subsidies reached an aggregate level comparable to that of advanced industrial countries, especially EU, as shown in [Table 7]. The only remarkable difference was that the financial sector, not fiscal policy, was bearing the brunt of burden, as a legacy of previous credit rationing.¹¹

[Table 7] Amount of Subsidy: International Comparison

(Unit: %)

	(Total subsidy)/ GNP	(Subsidy to manufacturing)/ (Manufacturing value added)
Belgium	n.a.	4.1
France	1.8	3.5
Germany	2.4	2.5
Greece	n.a.	14.6
Ireland	n.a.	4.9
Italy	2.9	6.0
Luxemburg	4.0	2.6
Netherlands	n.a.	3.1
Portugal	n.a.	5.3
Spain	n.a.	3.6
UK	1.1	2.0
EU average	n.a.	3.5
US	0.5	n.a.
Japan	1.0	n.a.
Korea	1.8	2.8

Note: 1) Figures for Korea are for the early 1990s and those for other countries are for late 1980s.

Source: Korea Institute of Industry and Trade.

¹¹ A rigorous cross-country comparison of the amount of subsidy is difficult because different criteria (for example, including or excluding regional subsidies) are used to calculate it. The amount of subsidy in Korea, however, should have been reduced further from the figures in [Table 6], as liberalization of financial sector has proceeded rather quickly from the early 1990s.

Protection was reduced by cutting tariffs and lifting quantitative restrictions gradually through 'pre-announcement system' from 1980s (see [Table 3]). Korea's average tariff on manufacturing industries was cut to around six percent by 1996, comparable to that practiced in developed countries. Most quantitative restrictions were lifted, though some subtle exceptions were left intact, notably the 'import source diversification' policy, restricting imports of some items like automobile and consumer durables from Japan.

The phased market opening apparently had some stimulating effect on productivity. Producers who did not give up production had to enhance efficiency for survival. Also, as the size of domestic market grew, competition in domestic market became ever more intensive, again prompting productivity growth. This should also have helped infant industries to mature.

However, Korea had a long way to go to become advanced industrial country, so how Korean firms could become internationally competitive in the higher-technology industries still remained a question. As the government no longer officially targeted infant industries, the job was supposed to be taken over by private firms, large or small. But in actuality it was large chaebol firms that were best fit for the job, given their dominant position in the economy. With external capital market still regrettably incomplete, the internal capital market of chaebol was a strong advantage. Chaebol firms also had a strong advantage in the ability to internalize externality, owing to their size and diversified structure. Chaebol was seeking further diversification out of the long run growth strategy. As before, they were supposed to target more dynamic sectors with higher growth potential, which were by definition infant industries for the country. Firms are 'developmental' by definition (Murakami 1994: Chapter 6).

As government lifted various subsidies and protection but increased subsidy on R&D, and as firms began to recognize that Korea was no longer going to have comparative advantage in simple unskilled labor intensive products, they began to enhance their R&D capability drastically. R&D expenditure rose from 0.65% of GDP in 1981 to 2.69% in 1997. Proportionately higher share of the R&D was carried out by large chaebol firms. This makes a contrast with Taiwan, where smaller firms and government played more important role, and R&D expenditure rose less drastically from 0.94% of GDP in 1983 to 1.88% in 1997. In Singapore, where multinational corporations played more important role, it rose from 0.26% in 1981 to 1.47% in 1997 (see Shin 2001). It was during this period that Korean chaebol firms actually managed to emerge as effective competitors in the world market.

By the mid-1990s, domestic liberalization and market opening had proceeded quite significantly. Korea was not the developmental state that it had used to be in the 1960s and 1970s. Korea did this while maintaining high growth rate, so its transition from developmental state seemed quite successful.

2. Transition without Building A System

The transition process, however, was not without its problems. Cutting back subsidies and protection on manufacturing, under the external pressure, was more or less easier part of the transition. But Korean developmental state was more than subsidy or protection, the whole economic system being involved. The transition needed institutional upgrading in step with economic development (Radelet and Sachs 1998: 57). Korea had to build a new system of industry and finance to cope with new phase of development, and system building was more difficult than cutting subsidies or protection.

It is questionable that chaebol, while increasing R&D expenditure, targeted right industries and did right investment. As Korean economy continued to grow, it became more and more difficult to have an idea about in what industries Korean firms would have international competitiveness in the next stage. Faced with this difficulty, Korean chaebols showed a tendency to enter intermediate technology industries, contrary to their expected role of targeting higher-technology industries. It was thus more or less sensible when Samsung and Hyundai entered semi-conductor industry in the early 1980s, but it made no sense when they decided to enter automobile and steel industries respectively in the mid-1990s.

More generally, Korean firms were still more interested in enlarging size rather than raising profitability. As a result, their profitability was still low, or even lower than in the previous era. As shown in [Table 6], profitability of firms was now lower than not only nominal interest rate they paid, but also sometimes real interest rate, as inflation fell to single digit level in the 1980s. This happened while debt ratio still remained high, as shown in [Appendix Table 3]. As a result, the possibility of producing NPL and deteriorating balance sheet of financial institutions was even higher than in the previous era.

Low profitability and high debt ratio, that is, over-investment on over-borrowing, were more pronounced with chaebol firms than with ordinary firms. According to Krueger and Yoo (2001: 50-52), from 1986 to 1996, debt/equity ratio of thirty largest chaebol and non-chaebol firms were 385% and 283% on average respectively. During the same period, average return on equity (ROE) of thirty largest chaebol firms and non-chaebol firms were 9.6% and 13.1% respectively.

One big puzzle here is how Korean firms, especially chaebol firms, came to behave this way while financial repression was being lifted and real interest rate becoming positive so that the size of the rent to be obtained through the access to credit was drastically reduced. The answer is that no disciplining role was forthcoming from the financial sector, while the government gave up the direct disciplining role that it had played under the developmental state.

Though banks were officially privatized, their management was under the strong influence of the government. The government controlled banks through

various means, including licensing of new business, personnel selection, auditing, and other regulations, so independent managerial entity was never established. Banks under this situation failed to develop independent ability to evaluate borrowers and to monitor them after lending was made. Instead, they preferred lending money to chaebol firms on cross-guarantee of affiliated firms. They did so not believing in the cross-guarantee itself, but actually believing in implicit guarantee by the government: "too big to fail." This was the easiest and most secure way of doing business for them. Meanwhile, banks themselves were implicitly assured of their survival by the government, regardless of their business performance.

Chaebol also financed investment through transferring resources from profitable affiliated firms. As the size of capital (stock) market grew, the share of chaebol heads and their family fell, to no more than 10.3 percent by 1996. But chaebol maintained control through complicated system of circular ownership.¹² Under this situation, chaebol heads came to have the incentive to increase the size of firms to maximize the cash flow under their control instead of raising profitability. In other words, they had the incentive to enlarge size to increase the room for 'tunneling' money (Johnson et al. 2000). They also could lay their hands on the customers' money in their affiliated non-banking financial institutions, which grew rapidly in the 1980s and fell under their control.

No party inside the chaebol empire could check the behavior of owner-manager, i.e., chaebol heads. No voice of minority shareholders or clients of non-banking financial institutions could be heard, even though chaebol heads' behavior often meant intruding their property rights. Chaebol heads were thus feeling no opportunity cost of capital for shareholders' or clients' money as well as lenders.' They were facing more or less a 'soft budget constraint.'

Meanwhile, labor unions, an insider which came to have some bargaining power after political democratization began in 1987, did not have a positive effect on firm profitability, as elsewhere in the world (Conyon and Machin 1991; Bae and Kang 1992). Unions sometimes showed interest in correcting moral hazard of managers, but more frequently they behaved rather in the opposite way. Disproportionately represented in larger chaebol firms lacking transparency in management, they demanded raise of wages and improvement in working conditions beyond productivity increase. Unions sometimes did not care about the financial conditions of firms, since legally workers could not be fired or laid off on the basis of managerial conditions. Managers, themselves under the soft budget constraint, tended to accommodate unions' demand rather easily. A best example is Kia Motors, which went insolvent in the Summer of 1997, contributing to the precipitation of the crisis in November that year.

Meanwhile, unions were blocked from participating in the decision-making

¹² In Korea mutual share-owning by two enterprises has been illegal, so that chaebols have used circular ownership structure rather than interlocking one.

process beyond the level of their own firms, being banned, for example, from engaging in political activities. Their scope of interest could thus not be more than myopic, unable to present a broader alternative scheme whereby higher profitability and higher wages could go side by side in the longer run.

The government did not deal with the situation effectively. The government bureaucracy, while officially acknowledging the need for establishing independent managerial entity for banks, did not give up their *de facto* control that was the real source of their perks and privilege. As a result, almost the same deregulation issues were recurrently raised for more than a decade without being solved in any real sense. 'Market-enhancing' government intervention thus comes to encounter an inevitable dilemma. The government intervention is supposed to phase out over time, but it is the government bureaucracy itself that should determine the process, giving up its own vested interest.

As for preventing moral hazard by chaebol, some government officials were for it, but the majority had more stake with the symbiotic relationship with chaebol, who often provided them with money and, more importantly, jobs after retirement. They were anyway rarely strong enough to overcome the influence of chaebol, exerted through politics and press.

The government failed to introduce alternative institutions to replace its previous disciplining role under developmental state. The use of credit subsidy as a means of effective contest, a most important source of discipline on firms previously, was now given up without giving any thought to introducing a mechanism to replace it (Hong 1998). The government no longer could order large firms to reduce capacity in order to avoid over-investment. It also failed to build an effective exit mechanism for large firms to replace that under developmental state. Now if a large firm went insolvent, it had to go through a lengthy and costly procedure in the court, which generally took five to ten years to complete. There was no M&A or P&A market and the like that could facilitate the exit process.

Meanwhile, the government failed to develop an effective mechanism of supervision (prudential regulation) over financial institutions, which was a necessity for liberalization. The supervisory function was dispersed across various organizations under the control of the Ministry of Finance and Economics and the Bank of Korea, and became a bone of contention in the turf war where no clear winner emerged.

Korea thus came to have a non-system in industry and finance. The old system was out, but the new one was not in. Firms (notably chaebol), unions, financial institutions, and the government bureaucracy muddled through, clinging to their myopic self-interest. Firm profitability continued to be dangerously low while debt/equity ratio was still staying at a high level (see [Table 6] and [Appendix Table 3]). Likewise, probably owing to the lack of disciplining mechanism, growth of total factor productivity slowed down during this period, as could be inferred from [Table 5]. The assertion by Krugman (1994) that East

Asian growth is accounted for by increase of input rather than productivity fits this era of transition better than the previous one of developmental state *per se*. By the time the crisis broke out at November 1997, eight out of 30 largest chaebols had become insolvent. This left, of course, Korean banks and other financial institutions with huge NPL.

The political leadership to fend off the crisis was not forthcoming. Reform programs were there in relation to every link across chaebol, financial institutions, and government bureaucracy. However, the political leadership was unable to contain the resistance of chaebol, which was often exerted through the mass media under its control. Politicians were also indebted to chaebol through political contributions, etc.

Politicians not only failed to implement reform, but more accurately, they became a main part of the symbiotic system. With pervasive government intervention in the economy left intact, political process itself became a huge rent-seeking activity. This not only threatened the base of burgeoning democracy, but also made the incumbent have every incentive to preserve intervention to assure the booty of their rent-seeking activity.¹³

And, of course, underlying all these factors was political change. The effectiveness of Korea's hard (developmental) state owed much to the authoritarian rule, but ten years of political democratization has made the Korean state much softer.

3. Capital Market Opening and Crisis

Low profitability of highly indebted firms, which in turn deteriorated the balance sheet of financial institutions, was the basic underlying cause of the crisis in 1997. Foreigners withdrew their money after finding that Korean firms and financial institutions were insolvent. Korean crisis in 1997 was thus more than simple liquidity crisis produced by term mismatch of assets and liabilities.

It should be noted, however, that this phenomenon was not new. An additional explanation must be given about why, while previously the crisis assumed only domestic dimension, it took the form of full-blown foreign exchange crisis in 1997. China had a more mal-functioning financial and industrial (state enterprise) system, but managed to avoid the crisis. The crisis was of course precipitated by the exposure to short term international capital movement, which occurred in the process of market opening.

Under developmental state, foreign capital inflow and outflow were strictly under the control of the government. The government induced foreign loans and investment with an eye to making up for the chronic balance of payment

¹³ Since so much is at stake in political process, it has become almost an all-or-nothing game. This leaves the country without 'economic prerequisite to democracy' so that the very foundation of democracy has been threatened (see Usher 1982).

(current account) deficit. From the late 1980s, however, market opening in product market was followed by that in capital market. Three consecutive years of large current account surplus from 1986 to 1988 finally freed Korea from the chronic balance of payment (current account) deficit, which, as mentioned in Section II, had been caused by the replacement of the role of agriculture by foreign aid in the 1950s. Korea then accepted the obligations of the IMF Article VIII, Section 2-4. In the 1990s, stock market was made partially accessible to foreigners, and capital market was further opened in the process of joining OECD in 1996.

As capital market was opened in the 1990s, now balance of payments began to reflect capital inflow and outflow, rather than the other way around as in the previous era. Given a large differential between domestic and overseas interest rates¹⁴ and the seemingly promising nature of Korean stocks in constructing global portfolio, capital inflow tended to outweigh outflow by a wide margin. Capital market opening thus resulted in reversing Korea's balance of payment to deficit again, after a brief but large surplus during the late 1980s. Since the probability for the breakout of crisis in emerging countries is heavily affected by the state of current account (Frankel and Rose 1996; Park and Lee 1998), capital market opening, long-term or short-term, contributed to the outbreak of the crisis in 1997.

However, the composition of capital inflow of course matters. It is inflow of short-term rather than long-term capital that precipitates crisis by sudden outflow later. Since there is no question that Korea should eventually open capital market in full, including very short-term one, the real issue here is sequencing. The official position of the government, and the consensus among the majority of economists in Korea, have been a textbook story: domestic liberalization should precede external market opening; current transaction should be opened before capital transaction; financial industries should be opened in advance of capital movement; long term capital movement should be liberalized before short term capital movement.

Formally, this official position was never broken. Korean government chose gradualism with capital market opening, and proceeded carefully even when it negotiated for joining OECD in 1996, which had been politically decided. In reality, however, even before foreign direct investment (henceforth FDI) was fully liberalized, restrictions on some form of short term capital inflow was lifted as an 'exception,' such as trade-related short term financing for domestic firms and short term foreign currency borrowing of domestic banks (Wang, 2001). However, given the interest rate differential between domestic and foreign capital, the poor risk management ability of firms and financial institutions, and almost no supervision by the government, it entailed inflow of short term capital

¹⁴ For example, Korean banks' lending rate to enterprises still tended to be double digit just before the outbreak of the crisis, while Japan maintained 'zero' interest rate policy in the 1990s.

large enough to precipitate the crisis.

An inevitable question here is why foreigners lent money even though they should have known that Korean firms and financial institutions were by no means sound enough to repay it. The answer apparently is that they thought Korean government would bail them out (Dooley and Shin 2000). In other words, they were committing the same kind of moral hazard as Korean firms and financial institutions did. Their expectation turned out warranted when in August 1997 Korean government officially guaranteed the payback of foreign borrowing made by private sector. But Korea's foreign exchange reserve by then was a meager portion of the size of total short term debt, so foreigners simply did not believe in the ability of the government to bail them out. When they began competitive rush out of Korea, the crisis set in.

V. REFORM AND BEYOND: 1998-2002

1. Building A New System?

IMF imposed on Korea three policy packages: restrictive macroeconomic policy, structural reform, and market opening. Among them, restrictive macroeconomic policy and ensuing high interest rate were the most controversial, mostly centered on the effectiveness of high interest rate in reversing the flow of foreign capital (see, for example, Cho and West 2000, 2002; Hyun-Hoon Lee 2001). But probably a more important issue, though rarely mentioned, should be fairness. Korea had to raise interest rate and provide government guarantee to roll over foreign debt. In the process, foreign banks, which had committed moral hazard alongside Korean firms and financial institutions, gained much rather than being punished.¹⁵ In contrast, Korean borrowers were severely punished and Korean economy contracted by 6.7 percent in 1998.

Anyway, it was structural reform rather than short run macroeconomic policy that had a more lasting impact on the Korean economy. Korean government conformed to the IMF reform package and added some of its own. Four areas of reform have been declared: firm (or *chaebol*), finance, government and industrial relations. It can be said that the essence of the reform lies in building a new system across firms, financial institutions and government to overcome the lack of disciplining mechanism during the transition period.

Highly indebted firms, especially *chaebol* firms, were forced to reduce their debt-equity ratio, that is, to reverse over-borrowing. Cross-guarantee of loans for *chaebols* was eliminated by early 2000, and *chaebols* were bludgeoned to do 'big deal (business swap)' among themselves in order to adjust for over-invest-

¹⁵ In January 1998, Korea negotiated the roll-over of about 25 billion dollars of outstanding short-term debt in New York. Interest rate was set at 2.25%, 2.50% and 2.75% plus LIBOR for loans with one, two and three years of maturity, with government guarantee of repayment attached.

ment. Chaebols have also been urged to concentrate on their core competences rather than to pursue diversification.

Corporate accounting and disclosure system has been improved to enhance transparency, and larger chaebols have been required to produce consolidated financial statements. Institutional provisions have been made to protect the property right of shareholders against the arbitrary decision by owner-managers. Legal liability of directors involved in management in any form has been strengthened to increase their accountability. Litigation against managers has been made easier for minority shareholders. Internal discipline on managers has also been strengthened by activating board of directors and audit committee. It has been made mandatory for larger firms to have outside directors.

As for industrial relations, labor market flexibility was enhanced by making firing and laying-off easier. Meanwhile, attempts have been made to establish a cooperative industrial relations, and labor union has been allowed to participate in political activities. As firing and laying off were made easier, social safety net such as unemployment insurance and retraining program has been expanded.

The government has used 157 trillion won, equivalent to about 25% of GDP, to shore up the financial system, by recapitalizing or closing financial institutions, and taking over their NPL. The government also sold several financial institutions, including a major bank, to foreigners. The government has declared that, while increasing their ownership share of banks through recapitalization, it will allow their independent managerial entity, so that they will decide on lending and monitoring on their own ability and responsibility. Banks have been obliged to have outside directors, and the selection process of bank managers has been made more transparent. Then the government encouraged M&A among banks to enlarge their size.

Meanwhile, the government has established Financial Supervisory Service by consolidating prudential regulation agencies across banking, securities and insurance. Law is being revised to lower exit barriers for insolvent firms.

The basic framework of reform could be summarized as 'market-enhancing government intervention' (Aoki et al, 1997). The government takes initiative in the reform of firms and financial sector, and then, after completing the reform, retreat from the private sector, with the strengthened supervision of financial institutions as a main exception. Meanwhile, the government is to slim its bureaucracy, including the privatization of state enterprises. The whole task is to be carried out by 'democratic but hard' state. For that purpose, political leadership pledged a thoroughgoing reform of politics.

The reform has achieved many things. debt-equity ratio of Korean firms on average has been reduced drastically from 396% as of the end of 1997 to 182% as of the end of 2001 (see [Appendix Table 3]). Corporate management is more transparent now and firms are more cautious in investment and borrowing. BIS net capital ratio of banks rose from 7.04% in 1997 to 10.81% in 2001, in spite of the much strengthened criterion applied to the classification of risky assets.

The largest change, however, apparently is the behavioral pattern of banks. They are now very reluctant to lend money to highly indebted firms, large or small. And now they apparently do not believe that there is implicit government guarantee to bail out large firms: no longer "too big to fail."

Considering the difficulty of reform in developing countries (see Huntington 1968: Chapter 6), this is indeed an achievement. And considering that many of the reform measures, such as the dissolving the cross guarantee of loans and making consolidated financial statement, were on the reform agenda long before the crisis broke out, the crisis has made possible otherwise impossible reform. In other words, the crisis and ensuing IMF surveillance dealt to Korean economy a positive impact that shocks like war or foreign occupation sometimes did to a country historically (Olson 1982).

2. Problems Unsolved.

There are, however, many unsolved problems. First of all, while debt ratio has been successfully reduced, profitability of firms has not improved, as shown in [Table 6]. Not so many studies so far have addressed this problem, but the reason seems obvious. There are many firms whose debt ratio is still too high in view of the now tightened standard of banks. Contrary to the pre-crisis period, they cannot get an access to bank credit easily, and thus tend to fall into 'financial distress,' which makes them unable to generate profit.

Financially distressed firms not only reduce average profitability: they directly become a source of NPL. According to the Bank of Korea, 29% out of 3,323 surveyed firms do not earn operating income enough to cover interest payment in 2001. To resolve the problem, the government should implement some measures either to reduce debt ratio sufficiently to pull those firms out of financial distress or force exit upon them. However, the government seems to be unaware of the fact or pretend not to know.

Meanwhile, banks, reluctant to lend money to highly indebted firms, have been shifting weight of their business towards household loans. But so far they have shown little expertise, which again has enlarged the potential for producing NPL. Financial supervision agency has not been competent enough to deal with the problem quickly either.

The switch of banks to household loans also raises the question of under-investment. Under the new financial regime, under-investment or underdiversification as mentioned in Section III has again become a problem. A related question is the wisdom of completely eliminating internal capital market like cross-guarantee of loans for chaebol. Eliminating internal capital (and labor) market, while external capital market is still far from complete, may undermine the ability to invest or diversify. In a developing country like Korea, making firms to invest or diversify into more dynamic industries in which they can truly develop core competence is a more complicated issue than it appears.

That complication has provided a ground for rising voice for 'deregulation' of chaebol. As a result, after turns and twists, the limitation of circular ownership of *chaebol* firms, the base of chaebol heads' control of assets far beyond their ownership share, has become almost impotent, with many loopholes and exceptions attached. This is troublesome since corporate governance reform so far has hardly been enough for minority shareholders to check moral hazard of managers: they need 0.01% of total share to file derivative suits, 0.1% to review accounting books, and 0.5% to request dismissal of directors for listed companies. For large corporation, it is almost impossible for individual shareholders to mobilize this much share. Most outside directors are appointed by manager-owners, notably chaebol heads, themselves.

In the process of fighting the crisis, the government enormously tightened its grip on banks through recapitalization. The government then embarked on the task of enlarging the size of banks through mergers, without giving clear and organized rationale. More ironic is the government-initiated merger of banks whose majority shareholders are foreigners, as in the case of merger in 2001 to produce Kukmin Bank, Korea's largest one. This contradicts the declared position of the government -- and the IMF -- that foreign ownership of banks will enhance their autonomy and help transform their behavior into more business-like one. Meanwhile, the government bureaucracy has gradually been tightening its grip on Financial Supervisory Service, which was originally supposed to be a private organization,

The lingering dominance of government over private sector is ominous because reform of the government has been relatively meager. The dilemma of 'market enhancing' government intervention, mentioned in Section IV, is revealing itself again as the IMF 'occupation' has ended, and as memory of the crisis is waning.

Meanwhile, non-banking financial institutions are under the control of chaebol, and the grip of chaebol has been rather tightened after the crisis broke out. The government, after declaring that it would restrict ownership of non-banking financial institutions by chaebol in August 1999, retreated to an almost meaningless position. Most institutional investors, including pension funds, are also under the control of the government or chaebol.

Korea is thus in a dilemma where the government and chaebol are supposed to be disciplined only by themselves. Under this situation, a genuine discipline on both of them may come from foreigners. This is seemingly one reason why IMF demanded complete opening of the Korean economy, and the government willingly complied. The remaining official trade barriers, including 'import source diversification' policy, were eliminated completely. Korea also has opened all kind of capital market, from foreign direct investment to very short term capital flow. As a result, foreign investors and lenders could play some disciplining role, if they want to.

But as shown in the merger to produce Kukmin Bank, foreign investors are

not the guardian of the principle of market economy, but rational optimizers willing to take advantage of whatever is favorable to them, including government intervention. More importantly, the discipline imposed by international financial market, due to its volatility, may sometimes be too lenient and then too severe. As illustrated by the Korean case in 1997, the severe end of the discipline is not really discipline but crisis.

Can Korea avoid this severe end of discipline in the future? Under the IMF-imposed reform, market opening has proceeded much faster than Korea had planned before the crisis broke out. This means that the failure of sequencing in market opening that brought about the crisis has now been institutionalized.

There are safety net against the breakout of another crisis: more foreign exchange reserves, standing at 116.7 billion dollars against 52.9 billion dollars of short-term external debt as of the end of September 2002; improved risk management by financial institutions; and tightened supervision on international as well as domestic transactions. But most financial institutions are still neophytes in international business, and the weakness of Financial Supervisory Service has been manifested in its dealing with the increase of household loans and rising bureaucratic influence within the organization. Holding more foreign exchange reserves is expensive. More fundamentally, the government seemingly has little idea how much safety net is enough, and still less idea about whether it should impose capital control.

The next crisis will be more difficult to cope with than previous one because Korea will find itself in a much weaker fiscal position. The cost of shoring up the financial system and building social safety net after the crisis has led to a much deteriorated fiscal situation. National debt, which stayed at about 10% of GDP before the crisis and stood at 11.1% of GDP at the end of 1997, rose to 20.8% of GDP by the end of 2001. If the government guarantee of loans is added, national debt rose from 14.0% of GDP to 40.4% from 1997 to 2001. There also is unknown but surely large amount of hidden debt, notably in pensions.

Deteriorating fiscal situation is especially troublesome considering Korea's rapid demographic transition, which can be partly inferred from [Appendix Table 1]. The ratio of Korea's senile population (65 years and older) to total population was 3.1% in 1970 but rose to 7.1% in 2000, and is expected to shoot up to 13.2% in 2020. This trend is the fastest in history so far, even faster than that of Japan (Korea Development Institute 2001: 84-85).

3. New Development Strategy?

Through the crisis and ensuing reform, Korea has broken away from the past by purging the legacy of developmental state and trying to build a new disciplining mechanism. The next question inevitably arises here: on what Korea will live from now on, or what is the next development strategy?

Korea is still a developing country with a long way to go to catch-up with advanced countries. Korea's per capita GNI as of 2000 is 26.1% of the US' in official exchange rate and 50.7% thereof in purchasing power parity respectively. The corollary is Korea's lack of international competitiveness in many branches of very high-technology industries: manufacturing like aero-space, high-technology electronics, precision chemicals, and bio-chemicals; many branches of modern service industries including information and telecommunication, financial industry, and many 'cultural' industries like movies, etc.¹⁶ Within 'older' industries, Korea lacks international competitiveness in higher quality or higher value added activities like design or R&D. It is difficult to imagine that Korea become an advanced country without having competitiveness in at least some of these lines of activities. There is also the challenge of new technologies like information technology(IT), bio-technology(BT), nano-technology(NT), etc.

Catching up with developed countries in high technology industries is now more difficult than before, with developed countries much more stringent in technology transfer and consolidating their grip on intellectual property right. Meanwhile, there is the challenge by latecomers, especially China. Rapid growth of the Chinese economy has been a blessing on the demand side, Korea being able to generate a large balance of payment surplus in the trade with China. But on the supply side, China has been rapidly eroding Korea's competitiveness on the lower and intermediate technology products.

The result is reduced contestability in the upper end and increased contestability in the lower end of technological hierarchy. Korea is thus in a situation like "nut in a nutcracker." This is actually manifested in the deteriorating terms of trade. Korea's net barter terms of trade did not show any trend from the 1960s to the first half of 1990s, but during the seven years from 1995 to 2001, it fell by 31%. As a result, during the same period Korea's GDP grew by 5.3% on average annually, but GNI only by 2.9%.

Korean government has never presented a 'plan' or a systematic 'blueprint' for new strategy to cope with the situation. But the government and Korea's various think tanks are forwarding some piecemeal 'visions' for the future, which, while varying from one another, have common elements.¹⁷ They could be summarized as 'maximum globalization': induce as much FDI as possible by improving business environment through deregulation, lower taxes, peaceful industrial relations, and better social overhead capital. If you do not have the best business environment, you not only fail to induce FDI but also your own firms will move out.

¹⁶ See Cheonsik Woo (2002) for a more detailed account of Korea's state of comparative advantage.

¹⁷ Typical on this line of argument are Kim et al.(2000), Korea Development Institute (2001) and Cho, Lee-Jay et al. (2002). They are all associated with Korea Development Institute, but other organizations seemingly have not proposed a vision opposed to them in a fundamental sense.

This is no more than the old 'Washington Consensus' rephrased, the 'work of nations' in the globalization era (Reich 1991). Together with relatively thoroughgoing structural reform in the wake of the crisis, Korea thus seems to aspire to become a 'star pupil' of the US-led globalization drive.

Korea has been actively inducing FDI after the break-out of the crisis. Korea has induced 52 billion dollars of FDI (on the notification cases) during the four years from 1998 to 2001, compared with 25 billion dollars during 36 years from 1962 to 1997. Many economists expect that FDI will become a source of acquiring new technology. Now it seems that FDI has replaced the role of chaebol's diversification in the previous era: when the government sees new industries to be developed, it apparently first looks at FDI rather than chaebol.

Of course, inducing whatever FDI will not upgrade Korea's technological capability. Multinational corporations will locate high-value activities where the quality of human resource is high, low-value ones where it is low. It is critical to upgrade human resources through improving education at all levels. Korean government has thus been constantly searching the ways to reform the education system.

Furthermore, by inducing FDI, Korean government has an idea of making the country the 'circulation center' of Northeast Asia, taking advantage of its geographic location. Korean government has also embarked on efforts to induce Northeast Asian business centers of multinational corporations, through building special economic zones and providing other incentives.

The cases often cited for bench-marking in this context are small open countries in Europe and Asia. Korea is thus apparently trying to abandon the industrial strategy of larger latecomer countries like Japan (and Germany and Russia in the nineteenth century) in favor of smaller ones like Netherlands, Ireland, Denmark, Finland, or Singapore. Anyway, the globalization of world economy and the emergence of China have made Koreans feel that their country's situation is similar to those countries.'

Another measure to upgrade productive capacity has been promotion of information industry and technology. Even before the crisis broke out, Korea launched a nation-wide campaign for the development of information industry, with the slogan "Late start in industrialization, but head start in 'informationization.'" After the crisis broke out, that effort has been accelerated. The contribution of information industries, both hardware and software, to GDP growth rose from 3.6% in 1991 to 50.5% in 2000 and 33.3% in 2001 (Hong 2002). Korea has come to be most densely wired with internet, with ten out of 47 million population linked through broadband network as of the end of October 2002. Korea has also managed to succeed in taking the lead in some state-of-the-art technology such as CDMA and TFT-LDC.

Related to the promotion of information industry is the promotion of venture business. Korean government launched a massive promotion of venture business in the depth of recession in 1998 to relieve unemployment, but also to extend

technological frontier. Though the area of venture business was by no means limited to particular industry or technology, so far venture has been most heavily concentrated on information industry and technology.

4. Lingering Questions

Some of the new development strategies listed above have been implemented, some at the stage of conception. In a broad sense, they seem correct, desirable, or even inevitable. They have, however, their share of problems.

There is no denying the importance of inducing FDI for Korea. Korea has opened market for even very short-term capital inflow, so from the simple viewpoint of right sequencing in market opening, inducing FDI is important. In addition to bringing in technology and creating employment, FDI is expected to help overcome Korea's dirigiste tradition, unless the government blunders as in the case of merger to produce Kukmin Bank. However, FDI inflow so far has been heavily accounted for by 'fire sale' in the wake of the crisis. It still remains to be seen whether FDI can flow into Korea in an enlarged scale under normal conditions.

Another question is also in order: what is the division of labor between domestic firms, notably chaebol, and FDI? Will FDI replace the previous role of chaebol in targeting new industry or technology? What is the room for the cooperation between domestic firms and multinational cooperations, through, for example, strategic alliance; or is there a possible conflict of interest between them? More fundamentally, is it really correct for Korea, with more than 47 million population, to switch its development strategy from one resembling that of Japan or Germany at earlier times to one emulating that of small open economies of Europe or even Singapore? If so, what should be kept and what should be abandoned among the legacy of the past?

Of course, there is no disagreement about the necessity to improve business environment, not only for the purpose of inducing FDI but also to activate domestic entrepreneurship. Unfortunately, there are more talk than implementation about deregulation, and the shortage of social overhead capital is still there. Despite the efforts for reform, Korea still has a reputation for its confrontational industrial relations.

The level of education in quantitative terms is being continuously upgraded, as shown in [Table 2]. However, whether it is accompanied by an equivalently qualitative improvement is questionable. And the government endeavor to reform education system so far has been in disarray, resembling 'experimentation with people' rather than implementation of serious policy. Especially ominous is the radical shift of student preference away from science and technology towards medicine or law, as job security has become the major concern after the outbreak of the crisis.

With the improvement of business environment still a long way to go on

national level, the attempt to establish special economic zones with special clauses on industrial relations and government regulations invokes protest by unions and raises the issue of reverse discrimination against domestic firms.

Korea is having problems not only with globalization but also with regional cooperation. Until very recently, Korea alongside Japan have been the two countries without any regional agreement for economic cooperation. Now Korea is concluding free trade agreement with Chile and Japan with Singapore. Considering that Japan has an informal business network stretching all over Southeast Asia, Korea is facing a possibility of being left alone in the worldwide game of regional alliances.

On the other hand, globalization or regionalization invokes the question of how to compensate the losers. Market opening needs a concomitant compensation scheme for the losing sector, as every neoclassical economist believing in Pareto Optimum would admit. It seems indeed not an accident, as Rodrick (1997) argues, that small open European countries, which Korea is now trying to emulate, are typical welfare states. To developing countries without a well-working compensation scheme for the losing sector, market opening may impose a cost to the economy which may even exceed the benefit of market opening itself. It is thus questionable whether Korea actually benefited from the Uruguay Round, after spending 57 trillion won to compensate for its shock to agriculture alone. Now with the fiscal situation much more vulnerable, rising fiscal cost to cope with market opening will be that much more burdensome.

More generally, if globalization is to proceed smoothly, it is important to deal with the rise in inequality that is often associated with it. Korea has had a relatively egalitarian income distribution, which could be traced back to the implementation of land reform and devastation of existing properties by war in the 1950s. [Table 8] shows the estimates of distribution of income, which apparently compares favorably with other developing countries. Korea together with other East Asian countries are known for their 'growth with equality' (World Bank 1993: Chapter 1). [Table 8] also suggests that, in spite of the inevitable inconsistency among authors, income distribution was probably not deteriorating at least from 1980 until the breakout of the crisis.¹⁸

However, Korea's inequality in income (and wealth) distribution apparently has been deteriorated significantly through the 'neoliberal' restructuring of the economy after the crisis broke out (see Crotty and Lee 2001). Further deterioration of distribution through globalization will not be easy to digest, given the fact that Koreans are accustomed to living with relatively egalitarian distribution of income and wealth for half a century.

¹⁸ Of course, estimates of income distribution in Korea is fraught with problems. Especially, business and property income is very difficult to capture statistically, and assertions have been made that inequality in this category of income may have deteriorated up to the breakout of the crisis (Lee 2002, for example). However, this remains a point to be proved.

[Table 8] Estimantes of Income Distribution

Year	Sources	Share of income (%)					GINI Coefficient
		The lowest 1/5	The next lowest 1/5	Middle 1/5	The next highest 1/5	The highest 1/5	
1965	Choo(1979)	5.8	13.6	15.5	23.3	41.8	0.34
1970	Choo(1979)	7.3	12.3	16.3	22.4	41.6	0.33
1976	Choo(1979)	5.7	112.2	15.4	22.4	45.3	0.39
1980	EPB ¹⁾	5.1	11.0	16.0	22.6	45.4	0.39
1982	Choo-Yoon (1984)	6.9	11.9	16.2	22.0	43.0	0.36
1985	EPB	6.0	12.0	16.3	22.0	42.7	0.34
1988	EPB	7.4	12.3	16.3	21.8	42.2	0.33
1993	MOFE ²⁾	7.5	13.0	17.4	23.0	39.3	0.31
1996	MOFE	7.7	13.5	17.8	23.1	38.0	0.30

Notes: 1) EPB denotes Economic Planning Board.

2) MOFE denotes Ministry of Finance and Economics.

Source: Jisoon Lee (2002)

On the other hand, promoting information industries and venture business has revealed different kinds of problems. First of all, in spite of the slogan of building 'knowledge-based economy' through promotion of information industries, total factor productivity growth has slowed down rather than accelerated after the crisis broke out, as shown in [Table 5]. At least partly responsible for this is seemingly the fact that, notwithstanding the higher productivity growth in information industry itself, heavy investment in information equipment by other industries is not immediately productive.¹⁹ It still remains to be seen that Korea's 'informationization' drive will indeed pay off.

Another problem with promoting information industry is the lack of consistent principle across different objectives and means. Government played an active role in the development of information industry through the promotion of 'informationization' and subsidizing investment and technology development. Growth of information industry and technology is virtually the result of 'targeting' by the government. Here, Korea still looks like a latecomer jumping into more dynamic industries with the state initiative. The problem is that this conflicts with the declared position of the government that it will no longer target particular industry or technology. Also, the government, while talking about 'selection and concentration,' is emphasizing the importance of virtually all new technology industries like information-, bio-, and nano-, etc., and chaebols are revealing their

¹⁹ In the case of manufacturing sector, total factor productivity grew by 14.3% in information industries and by -3.3% annually in the other industries respectively from 1991 to 2000 (Hong 2002).

aspirations to enter all of them.²⁰

The same problem is revealed in the government policy towards venture business. Venture business, which needs extremely sophisticated institutional -- especially financial -- arrangements, began to be promoted partly for the purpose of breaking away from the past state-led growth. But Korean government tried to promote venture business through the old method of industrial policy, including credit subsidy.²¹ KOSDAQ, stock market which was supposed to play a key role in promoting venture business, has become a source of corruption, scandal, and eventually big bubble that has burst with vengeance. The KOSDAQ venture index, which shot up above 600 at its peak in 1999, now hovers around 70.

Korea thus seems in a strange mixture of rhetoric and piecemeal implementation of mutually inconsistent ideas with regard to new development strategy so far. Many government officials are seemingly aware of these problems. But they have not made any effort to construct a consistent scheme to deal with them, not to mention implementing it. They have no incentive to do so, because they are not prompted and monitored that way. Korean state thus seems still not hardened enough after going thorough the turbulence of the crisis.

Of course, the basic underlying cause is again political. Only political leaders commanding the state apparatus could compel the government bureaucracy to think and behave consistently. Unfortunately, politics is the most backward part of Korean society that has been least reformed after the crisis.

²⁰ Of course, new technologies are broadly defined and have their subdivisions, so there should be some room for selection and concentration within each of them. But this has never been clearly defined either.

²¹ For example, in 1998 the government ordered banks to lend one trillion won to venture business.

[Appendix Table 1] Growth Rates

(Unit: %)

Year	Population	GDP	per capita GDP	Agriculture, forestry and fishing	Manufac- turing
1954	4.0	5.6	1.6	8.0	18.1
1955	2.3	4.5	2.2	1.5	21.3
1956	1.5	-1.3	-2.8	-6.9	15.2
1957	4.4	7.6	3.2	9.4	7.1
1958	3.0	5.5	2.5	7.3	10.3
1959	1.7	3.9	2.2	-0.3	9.2
1960	3.7	1.2	-2.5	-2.1	8.2
1961	4.5	5.9	1.4	12.2	4.0
1962	2.7	2.1	-0.6	-6.0	11.7
1963	2.9	9.1	6.2	9.5	16.1
1964	2.6	9.7	7.1	15.6	9.9
1965	2.4	5.7	3.3	-1.0	20.5
1966	3.3	12.2	8.9	-1.0	17.3
1967	2.2	5.9	3.7	-6.0	21.6
1968	2.6	11.3	8.7	1.3	27.2
1969	2.8	13.8	11.0	10.5	21.6
1970	2.2	8.8	6.6	-1.4	19.9
1971	2.2	8.5	6.3	3.0	17.8
1972	2.1	4.8	2.7	2.4	13.3
1973	1.5	12.8	11.3	7.3	28.7
1974	2.2	8.1	5.9	6.5	16.2
1975	1.8	6.6	4.8	3.9	12.0
1976	1.6	11.8	10.2	9.8	23.6
1977	1.5	10.3	8.8	2.8	15.1
1978	1.5	9.4	7.9	-9.8	21.0
1979	1.7	7.1	5.4	7.0	10.4
1980	1.4	-2.7	-4.1	-19.1	-0.7
1981	1.4	6.2	4.8	14.3	9.9
1982	1.6	7.6	6.0	7.4	6.7
1983	1.8	11.5	9.7	7.7	15.4
1984	1.5	8.7	7.2	-1.5	17.3
1985	0.9	6.5	5.6	3.8	7.1
1986	1.2	11.6	10.4	4.7	18.7
1987	1.0	11.5	10.5	-6.1	18.3
1988	1.1	11.3	10.2	8.9	12.1
1989	1.1	6.4	5.3	-1.0	3.5
1990	1.4	9.5	8.1	-4.6	9.2
1991	1.1	9.1	8.0	2.9	9.5
1992	1.0	5.1	4.1	9.6	5.3
1993	1.2	5.8	4.6	-4.5	5.4
1994	1.6	8.6	7.0	0.2	10.8
1995	1.6	8.9	7.3	6.6	11.3
1996	1.4	7.1	5.7	3.3	6.8
1997	1.0	5.0	4.0	4.6	6.6
1998	1.0	-6.7	-7.7	-6.6	-7.4
1999	0.9	10.9	10.0	5.4	21.0
2000	0.6	8.8	8.2	0.1	15.9
2001	0.6	3.0	2.4	1.4	1.7

Source : the Bank of Korea.

[Appendix Table 2] Composition of GDP

(Unit : %)

	Expenditure				Production			
	Gross investment	Gross saving	Exports ¹⁾	Imports ²⁾	Agriculture and fishery	Mining and manufacturing	Manufacturing	SOC and Service
1953	14.7	13.1	2.0	9.9	47.3	10.1	9.0	42.6
1954	11.4	10.4	1.1	7.5	39.8	12.7	11.8	47.5
1955	11.7	10.3	1.7	10.1	44.5	12.6	11.6	42.9
1956	8.0	8.6	1.4	13.3	46.9	12.7	11.6	40.4
1957	14.0	13.9	1.5	12.1	45.2	12.7	11.2	42.1
1958	11.8	12.8	2.1	10.9	40.7	14.4	12.8	44.8
1959	10.4	10.8	2.7	10.4	33.8	15.9	14.1	50.3
1960	10.0	9.0	3.4	12.8	36.8	15.9	13.8	47.3
1961	12.0	11.7	5.4	15.0	39.1	15.5	13.6	45.4
1962	11.8	11.0	5.1	16.8	37.0	16.4	14.4	46.7
1963	17.0	14.4	4.8	15.9	43.4	16.3	14.7	40.2
1964	13.2	14.0	5.9	13.6	46.8	17.4	15.6	35.8
1965	14.1	13.2	8.6	16.0	38.0	20.0	18.0	41.9
1966	20.4	16.6	10.4	20.3	34.8	20.5	18.6	44.7
1967	20.9	15.4	11.5	22.2	30.6	21.0	19.1	48.3
1968	24.9	18.2	12.8	25.6	28.7	21.6	20.1	49.7
1969	27.9	21.4	13.5	25.4	27.9	21.7	20.3	50.4
1970	23.9	11.9	14.3	24.1	26.9	22.4	20.9	50.7
1971	24.8	16.1	15.4	25.7	27.2	22.5	21.1	50.3
1972	20.9	17.3	19.9	24.5	26.7	23.5	22.2	49.8
1973	25.2	22.6	29.5	32.4	24.9	26.2	24.9	48.8
1974	31.8	20.3	27.8	38.8	24.8	27.2	25.7	48.0
1975	28.6	18.1	27.8	36.2	24.9	27.5	25.9	47.6
1976	26.5	24.2	31.0	32.8	23.5	28.8	27.4	47.7
1977	28.3	27.5	31.6	32.2	22.3	28.4	26.8	49.2
1978	32.5	29.9	29.6	33.1	20.4	28.3	26.7	51.3
1979	35.8	28.5	27.8	34.5	19.0	28.9	27.5	52.1
1980	31.9	23.2	33.9	41.3	14.7	29.7	28.2	55.6
1981	29.9	22.9	36.4	41.4	15.5	30.1	28.5	54.4
1982	28.9	24.4	34.3	36.9	14.4	29.5	28.1	56.1
1983	29.4	27.6	35.4	35.9	13.2	30.3	29.0	56.5
1984	30.6	29.9	35.5	35.4	12.5	31.0	29.9	56.4
1985	30.3	29.8	34.1	32.8	12.5	30.5	29.3	57.1
1986	29.2	33.7	37.6	31.7	11.2	31.8	30.8	57.0
1987	30.0	37.3	40.2	32.4	10.1	32.3	31.4	57.5
1988	31.1	39.3	38.4	30.5	10.2	32.9	32.1	57.0
1989	33.8	36.2	32.7	30.0	9.6	31.7	31.0	58.7
1990	37.1	35.9	29.8	30.3	8.7	29.7	29.2	61.6
1991	39.1	36.1	28.2	30.6	7.7	29.0	29.0	63.3
1992	36.8	34.9	28.9	29.9	7.4	28.1	28.7	64.5
1993	35.2	35.2	29.3	28.8	6.7	27.3	28.8	65.6
1994	36.2	35.6	30.1	30.8	6.5	27.2	29.0	65.7
1995	37.2	36.2	30.2	31.7	6.2	29.8	29.4	66.4
1996	37.9	34.0	29.5	33.6	5.8	29.3	28.9	67.6
1997	34.2	33.7	34.7	35.7	5.4	29.3	28.9	65.3
1998	21.2	34.4	49.7	36.3	4.9	31.2	30.9	63.7
1999	26.7	33.5	42.3	35.5	5.1	31.1	30.7	63.8
2000	28.2	32.6	44.8	41.7	4.7	31.6	31.3	63.7
2001p	26.7	30.1	42.9	40.6	4.4	30.3	30.0	65.2

Notes: 1) Exports of goods and services.

2) Imports of goods and services.

Source: The Bank of Korea.

**[Appendix Table 3] Return on Equity (ROA) and Debt-Equity Ratio (D/E):
International Comparison**

(Unit : %)

	Korea		US		Japan		Taiwan	
	ROA	D/E	ROA	D/E	ROA	D/E	ROA	D/E
1966	9.9	118	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1967	7.8	151	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1968	7.1	201	n.a.	75	n.a.	320	n.a.	n.a.
1969	4.6	270	n.a.	83	n.a.	335	n.a.	n.a.
1970	2.9	328	n.a.	86	n.a.	366	n.a.	n.a.
1971	1.1	394	n.a.	87	n.a.	396	n.a.	n.a.
1972	3.8	313	n.a.	n.a.	n.a.	391	n.a.	n.a.
1973	3.1	273	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1974	5.8	316	n.a.	88	n.a.	n.a.	n.a.	n.a.
1975	3.9	340	9.1	86	n.a.	502	n.a.	160
1976	5.0	365	11.1	86	2.9	500	4	176
1977	4.4	367	11.0	84	2.9	474	5.1	172
1978	5.1	367	11.2	93	3.5	421	7.1	162
1979	3.4	377	11.3	99	5.1	414	7.3	127
1980	-0.2	488	9.2	101	5.0	412	5.5	177
1981	0.0	452	10.7	108	4.0	342	2.7	176
1982	1.0	386	6.8	106	4.2	321	2.2	176
1983	3.2	360	8.1	104	4.3	277	4.8	159
1984	3.3	343	9.3	110	5.5	294	5.1	135
1985	3.0	348	7.2	121	4.8	269	4.4	114
1986	4.5	351	6.7	127	3.6	269	7.3	102
1987	4.5	340	8.3	134	4.6	255	9.8	117
1988	4.9	296	9.6	138	5.7	244	10.2	84
1989	2.7	254	7.9	147	5.8	230	8.3	71
1990	2.5	286	6.2	149	5.1	227	4.3	83
1991	1.8	309	3.8	147	4.1	221	7.8	98
1992	1.4	319	1.4	168	2.8	216	5.1	93
1993	1.6	295	4.2	175	2.0	213	4.4	88
1994	2.7	303	8.1	166	2.5	209	6.8	87
1995	3.5	287	8.7	160	3.1	206	5.5	86
1996	0.9	317	9.1	154	3.7	193	n.a.	n.a.
1997	-0.3	396	9.2	154	3.5	186	n.a.	n.a.
1998	-1.5	303	8.2	159	2.3	173	n.a.	n.a.
1999	1.4	215	8.5	164	2.9	174	n.a.	n.a.
2000	1.2	211	8.4	158	4.0	160	n.a.	n.a.
2001	0.4	182	1.8	159	n.a.	n.a.	n.a.	n.a.

Sources: the Bank of Korea, *Finacial Statement Analysis*, and Krueger and Yoo(2001).

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