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EXPORT LED INDUSTRIALISATION AND GROWTH-
KOREA'S ECONOMIC MIRACLE 1962-89

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Abstract

The period 1962-89 witnessed a remarkable transformation of the South Korean economy, from being poverty ridden to the attainment of the status of newly industrialised nation. This transformation was achieved through the adoption of an outward oriented industry led strategy, based, particularly during the period of the 1970s, upon the development of large-scale industrial conglomerates and the attainment of economies of scale and technology to achieve international competitiveness. By the early 1980s this strategy had resulted in major structural imbalances, a weakened financial section, heavy concentration in domestic markets, and a repressed development of small and medium enterprises. By the end of the 1980s, despite attempts at economic reform during this decade, the structural and financial problems remained which were to prove the country's undoing during the financial and economic crisis of 1997-98.

This issue of whether Korea's performance during this period can be described as an economic miracle is also reviewed. The empirical evidence on this issue is mixed and no conclusive evidence can be drawn. However, despite this, the achievements of the Korean economy during the period under discussion should not be underestimated.

1. Introduction

Following the devastation of the Korea War (1950-53) South Korea was one of the poorest countries in the world[1]. During the period 1953 to 1961 the economy experienced a slow recovery from the war, considerable dependence upon assistance from the US, an economic policy focused on import substitution, and massive investment in education. While the emphasis on import substitution was a mistake, private and public investment in education would later provide a well-educated labour force that would form the backbone of the labour intensive industries developed from the early 1960s. Even in 1960, after the damage inflicted during the war had been repaired, Korea's per capita income was still only US$79 in current prices, much lower than that of most of its neighbouring countries. Few, if any, observers at this time were optimistic about an improvement in Korea's poverty stricken economy (see for example Song (1990), p.57 and Tae (1972), pp.40-41).

With the beginning of the First Five-Year Plan (1962-66), however, a remarkable transformation of the economy took place that was to catapult Korea to the status of Newly Industrialising Country (NIC) by 1970 (Song (1990), p.1)[2]. Over the longer period 1962-89 per capita income increased from US$87 to US$5,199, the economy's GDP expanded from US$2.3 billion to US$220.7 billion, and exports increased from US$55 million to US$61.4 billion. The normalisation of relations with Japan in 1965, fiscal and financial reforms in the mid 1960s aimed at maintaining stabilisation of the economy, supplying materials for the Vietnam War, the Middle East construction boom in the 1970s, low oil prices, a cheap US dollar, and low interest rates in the late 1980s, all facilitated this rise (Song (1990), p.1). The period of the 1960s and 1970s in particular were also characterised by a favourable international environment for economic development. The US led free trade environment of the 1960s and 1970s based on the IMF and the GATT system gave a boost to Korea's development policy. Korea continued its rapid growth during the 1970s despite the two oil crises, and by the late 1980s had joined the highest income developing countries group. An economic 'miracle on the River Han'[3] appeared to have occurred.

The paper examines the major factors behind this remarkable transformation of the economy, during the period 1962-89, and in doing so proceeds as follows. Section 2 overviews developments in key macroeconomic variables during the period Section 3 focuses upon the features of Korea's rapid growth, its pattern, and sources, business cycles, and related issues. Section 4 conducts an overview of Korea's economic performance in the context of the 'Asian economic miracle'. Finally, section 5 presents a summary of the major conclusions from this paper.

[1] The war cost the lives of over 1 million people and destroyed about half of the country's infrastructure. It also destroyed traditional authority and class barriers, as well as traditional habits, making it easier to lay the foundation for a more modern economy (Song (1990), p.3). A legacy of the war was the requirement by the South to spend some 6 percent of its GNP on defence, to maintain the fifth largest standing army in the world (Lee (1968)).

[2] By this year the South had also overtaken the North in terms of per capita income.

[3] The Han river is the major river running through Seoul, the capital city of South Korea.

2. Korea's economic performance 1962-89[4]

2.1 Overview

A remarkable transformation of the economy began with the introduction of the First Five Year Plan (1962-66) (see Table 1). Over the period 1962-89 the economy achieved: an average annual real GDP growth rate of 8.5 percent; per capita income increased from US$87 to US$5,199; GDP in current prices increased from US$2.3 billion to US$220.7 billion; the savings rate increased from 3.3 percent to 35.4 percent; the investment rate increased from 12.8 percent to 35.9 percent; and the rate of unemployment fell from 9.8 percent to 2.6 percent. In terms of external developments the trade balance was in deficit by US$335 million in 1962 but was in surplus by US$4.6 billion 1989; exports were a negligible US$55 million in 1962 but a sizable US$61.4 billion in 1989. The country's foreign debt, however, increased from US$157 million in 1963 to over US$3 billion by 1989. Within a single generation the country was transformed from being heavily dependent upon foreign aid in the early 1960s, to becoming self sufficient in terms of its own funding requirements by the end of 1986. The remainder of this section is devoted to analysing the development of these key macroeconomic variables.

2.2 Growth pattern and characteristics

During the period 1962-89 Korea's high growth slumped badly only once – in 1980 – due to the socio-political unrest following the assassination of President Park Chung Hee in October 1979 and the subsequent re-establishment of military rule in May 1980, compounded by the worst harvest since 1962 and the second global oil price hike. A number of factors accounted for the overall rapid and sustained growth of the economy: the adoption of a growth strategy focusing upon exports; the development of growth promoting institutions and public policies; high quality workers and entrepreneurs; a technological backlog available to Korea as a latecomer; efficient usage of public resources for infrastructure development and education; population control; the capacity of entrepreneurs and policy makers to adjust rapidly and flexibly to external shocks; and maintenance of a relatively equitable income distribution.

A number of key characteristics of Korea's growth can be identified. First, the rapid transformation to high economic growth was primarily initiated by an expansion of exports (Song (1990), p.58, Lee (1996), p.18, Smith (2000a), p.60), sustained by the growth of export industries, the provision of investment resources through the government's active involvement in the market, and macroeconomic stabilization measures.

[4] The year 1989 was a watershed year for Korea for three main reasons. First, per capita GDP attained the US$5,000 level in 1989 for the first time in history. Second, four consecutive years of current account surpluses ended in 1989. Third, the country officially graduated in 1989 from the status of a developing country at GATT.

Table 1 Major indicators of Korean economic growth 1960-89

	GDP per capita (US$)*	GDP (US$b)	Real GDP growth rate (%)	CPI (%)	Savings ratio (%)	Investment ratio (%)	Trade balance (US$ m)	Exports (US$m)	Foreign debt (US$m.)	Unemploy. rate (%)	Exchange rate (won/US$)
1960	79	2	1.2	na	0.8	10.9	-273	33	-	11.7	65
1961	82	2.1	5.9	na	2.8	13.2	-242	41	-	12.7	130
1962	87	2.3	2.1	na	3.3	12.8	-335	55	-	9.8	130
1963	100	2.7	9.1	na	8.7	18.1	-410	87	157	8.2	130
1964	103	2.9	9.7	na	8.7	14.0	-245	120	177	7.7	256
1965	105	3	5.7	na	7.4	15.0	-241	175	206	7.4	272.1
1966	125	3.6	12.2	12	11.8	21.6	-430	250	392	7.1	271.5
1967	142	4.2	5.9	10.7	11.4	21.9	-574	335	645	6.2	274.6
1968	169	5.2	11.3	11.3	15.1	25.9	-836	486	1199	5.1	281.5
1969	210	6.5	13.8	11.6	18.8	28.8	-992	658	1800	4.8	304.5
1970	248	8	8.8	16.9	16.2	24.6	-992	882	2245	4.5	316.7
1971	286	9.4	8.6	12.2	14.5	25.1	-1044	1133	2922	4.5	373.2
1972	316	10.6	4.9	11.9	15.7	20.9	-574	1676	3589	4.5	398.9
1973	396	13.5	12.3	3.5	21.4	24.7	-566	3284	4260	4	397.5
1974	542	18.8	7.4	24.8	19.3	31.8	-1938	4516	5937	4.1	484
1975	598	21.1	6.5	24.7	16.9	27.5	-1671	5003	8456	4.1	484
1976	806	28.9	11.2	15.4	22.2	25.7	-590	7814	10533	3.9	484
1977	1019	37.1	10	10	25.4	27.7	-477	10046	12648	3.8	484
1978	1407	52	9	14.7	27.3	31.9	-1780	12711	14871	3.2	484
1979	1649	61.9	7.1	18.5	26.5	36	-4395	14705	20287	3.8	484
1980	1632	62.2	-2.1	28.7	20.8	32.1	-4384	17214	27170	5.2	659.9
1981	1797	69.6	6.5	21.3	20.5	30.3	-3849	20747	32433	4.5	700.5
1982	1892	74.4	7.2	7.1	20.9	28.6	-2827	20934	37083	4.4	748.8
1983	2062	82.3	10.7	3.4	25.3	29.9	-1849	23272	40378	4.1	795.5
1984	2242	90.6	8.2	2.2	27.9	31.9	-1089	26486	43053	3.8	827.4
1985	2289	93.4	6.5	2.3	28.6	31.1	-19	26442	46729	4	890.2
1986	2611	107.6	11	2.8	32.8	30.2	4299	34128	44500	3.8	861.4
1987	3248	135.2	11	3.1	36.8	37.7	7529	46560	35600	3.1	792.3
1988	4302	180.8	10.5	7.1	38.6	39.1	11283	59973	31500	2.5	684.1
1989	5199	220.7	6.1	5.7	35.4	35.9	4597	61408		2.6	680

* GNP per capita before 1970

Notes: GNP and GNP per capita are in current prices. The rate of inflation is based on the GNP deflator. The rate of interest rate on time deposits for the period of one or more years.

Source: Song (1990), pp. 60-61

Bank of Korea (http://www.bok.or.kr)

National Statistical Office (http://www.nso.go.kr)

Where investment could not be provided by the private sector alone, particularly during the early stages of economic development, the government used its own investment resources for the construction of key industries and for the formation of social overhead capital. Many export industries, and indeed the economy as a whole during the early stages of its development, was subject to extensive involvement by the government, and the country's initial export expansion was effectively 'forced' by the actions of the government (Song (1990), p.58). The basic philosophy of the Park Chung Hee government was "exports first", or "nation building through export promotion". Attaining ambitious government set export targets, and then exceeding these targets, was regarded as the height of achievement for businessmen and public officials in charge of export promotion. Larger Korean firms were assigned annual export targets by officials in the Ministry of Trade and Industry, and were seen by these firms as virtual orders or assigned missions. If they succeeded in fulfilling their export goals they obtained numerous benefits reserved for exporters, including preferential credit and loans, administrative support, tax and other benefits. Thus Korean exporters saw the over-fulfillment of their export targets – usually determined jointly with the government – as the keystone of their business strategy. By the 1970s, however, increased focus was given to the development of import substituting strategic heavy and chemical industries (HCIs), as well as maintaining the export growth of light manufactured industries and the development of new heavy goods exports. The 1980s saw a refocusing upon trade liberalization including an opening up of domestic markets and a reduction in export subsidies, arising from pressure from trading partners.

Second, the country experienced high but volatile economic growth. Economic fluctuations in the 1950s had not been extreme, in part because year-to-year fluctuations, in the then largely agricultural economy, reflected only variations in crop yields due to such things as the weather. Such fluctuations were not extreme because of a stable climate and extensive irrigation. With the decrease in the relative weight of agriculture, and the rise in the proportion of the manufacturing and services industries, in GDP, the nature of the fluctuations changed and tended to become larger and more unpredictable. From the 1960s, because of the growth first development policy, the economy experienced more year-to-year fluctuations. Since the scale of the Korean economy was relatively small well into the 1970s, the growth rate was also susceptible to large fluctuations caused by construction phases in large investment projects. The economy's outward orientation also exposed it to fluctuations from oil price hikes and other external influences. The inexperience of policy makers, especially during the 1960s, also contributed to economic fluctuations.

Third, many Korean industries were initially developed on the basis of the export first principle. This strategy resulted in Korean firms marketing their products in overseas markets rather than in domestic markets, as in the case of the colour TV industry. As the domestic sale of colour TVs was not allowed until 1980, colour TV manufacturing firms had to sell their products in overseas markets. Other examples included industries producing high value items such as phonographs, portable telephones, and mink coats. Korea's export first principle of industrial expansion was in direct contrast with the Japanese pattern of industrial growth, which was based on the domestic market first principle. Because of the forced nature of the growth of many industries in Korea, the share of manufacturing in GDP was larger than the average or normal level in other countries. Also, the shift in the production structure from agriculture to manufacturing in Korea was faster than the pattern typically observed in other developing or developed countries. In the 1970s greater focus was placed upon the development of strategic HCIs, which further contributed to the rapid growth of the country's industrial conglomerates. Increased structural imbalance in the economy by the 1980s between sectors and size of enterprises contributed to greater emphasis on the need to reduce market concentration, increase competition and encourage the growth of small

and medium enterprises.

Fourth, as the expansion of industrial capacity tended to be excessive, the amount of domestic investment generally exceeded the amount of domestic savings (see Table 1). In addition, much of this domestic saving was diverted into real estate as a hedge against high inflation. Hence, the level of available domestic saving in Korea was lower than that required to meet the productive investment needs of the country. This gap had to be filled through foreign borrowing, and this, along with the need to import oil and many other industrial raw materials, explains why Korea's foreign debt continued to rise until 1985 (see Table 1). The amount of foreign capital inflow into Korea was higher than that for other countries at a similar stage of economic development (see Table 2). Also, the debt to equity ratio of large Korean firms, forced to over-expand their production and export capacity, tended to be higher than that of other Asian newly industrialised countries (NICs). Korean growth was, therefore, characterised by domestic investment exceeding domestic savings, a high debt-equity ratio for most firms, and a large foreign debt.

Fifth, since for much of the period under discussion the priority of policy was the expansion of exports, and HCI industries, investment in social overhead capital received low priority and usually lagged far behind investment in directly productive activities. This was exacerbated by insufficient investment resources and relatively high defence expenditures[5]. Korean industries, therefore, grew in the face of shortages and bottlenecks with respect to infrastructure resources. The Korean economy's growth, therefore, occurred due to investments in directly productive activities rather than in social overhead facilities. It was not until the second half of the 1980s that Korea's social capital expenditure was expanded sharply as a result of the preparation for the 1988 Olympic Games.

Sixth, the expansion of industrial capacity in Korea was achieved through an expansion of existing firms rather than through the creation of new firms. This pattern persisted for over two decades and resulted in the growth of a small number of very large firms and business conglomerates (*chaebols*), causing a large gap between large and small firms. The market concentration ratio in Korea was much higher than in either of its regional neighbours, Japan or Taiwan. In Japan growth was based on a significant number of very large firms as well as a large number of small firms, while in Taiwan emphasis was placed on the development of small firms. Hence the Korean economy may be called a large firm economy, in contrast to the small firm economy of Taiwan or the bi-polar economy of Japan. As discussed below the government attempted to restrain market concentration during the period of the 1980s in order to reverse the structural imbalance between large and small enterprises.

Seventh, Korean growth was accompanied by trade and balance of payments deficits until 1985 (see Tables 1 and 2). This was caused, to some extent, by Korea's resource poverty, but principally due to the policy of allowing exporting companies to import raw materials, parts, and machinery required for the production of export goods on a large scale. This has been called a negative import substitution policy because exporting firms tried to import as much as possible. From 1986, however, the trade and international balance of payments turned positive and Korea changed from a young debtor nation to a mature debtor nation.

Eighth, during its period of rapid economic development Korea experienced sharply fluctuating wholesale and consumer prices (see Table 1). Indeed from the early 1960s until 1981 Korea had

[5] Since no peace treaty was signed after the war the South remained technically at war with the North.

the highest inflation rate among the Asian NICs. This was especially true when the economy was hit by: oil price hikes; poor harvests; changes in government; and high levels of investment and capacity building. This high inflation was mainly due to an excessive expansion of demand associated with a rapid expansion of industrial capacity and the abnormal, compulsory, expansion of exports. The aggressive export promotion and growth policy necessitated that the economy had to consistently perform far beyond normal capacity, resulting in the forced expansion of investment and output. This was particularly prevalent during the HCI drive of the 1970s. Overly ambitious investment plans caused the inflationary financing of investment. Excessive investment demand was, therefore, one of the links between the forced export growth strategy and the high inflation that persisted until 1982.

The adverse consequences arising from this inflation were considerable. First, the high inflation impacted upon income distribution by redistributing wealth from creditors to debtors. Second, the high inflation rate often outstripped the government set bank interest rate, resulting in negative real rates. This encouraged many Koreans, individuals and businesses, to divert their savings from financial institutions to real estate, and significantly contributed to the reason why domestic savings were insufficient to meet domestic investment requirements during the period of rapid growth[6]. Third, high inflation contributed to an expansion of the unorganised credit market, or 'curb market', which in turn came to have a major role in mobilising and allocating investment funds.

Price stability was finally achieved in Korea from 1982. Inflation was reduced from well over 20 percent per year during 1980-81 to 7 percent in 1982, remained at under 3.5 percent between 1983-87, before increasing to around 6-7 percent by 1988-89. The control of inflation after 1982 was due to both domestic and foreign factors. First, import costs fell due to the three lows, namely low energy and raw materials prices, a depreciation of the US dollar, and low interest rates. Second, the government shifted the direction of development from growth to stability. Finally, labour productivity growth began to outstrip the growth of wages.

[6] Despite this the domestic savings ratio, although starting from a low base of 3.3 percent in 1962, grew rapidly to 15.7 percent in 1972, to 20.9 percent in 1982, and to 35.4 percent in 1989 (see Table 1).

Table 2 Balance of payments, selected years, 1962-89 (US$

	1962	1965	1970	1975	1980	1985	1989
Trade balance(1)	-335	-241	-922	-1671	-4384	-19	4597
Exports	55	175	882	5003	17214	26442	61408
Imports	390	416	1804	6674	21598	26461	56811
Service balance(2	43	46	119	-442	-1386	-1446	210
Receipts	108	114	497	881	5363	6664	12641
Payments	65	68	378	1323	6749	8111	12431
Transfers (net)(3)	236	203	180	227	449	578	247
Current account balance(4) (1+2+3)	-56	9	-623	-1887	-5321	-887	5055
Long term capital (net)(5)	8	37	449	1178	1857	1101	3362
Basic balance (4+5) (6)	-48	46	-174	-709	-3464	213	1692
Short term capital (net)(7)	-7	-23	122	680	1944	-588	60
Errors and omissions	-2	-2	16	-122	-370	-880	701
Overall balance (6+7)	-57	21	-36	-151	-1890	-1255	2453
Gold and foreign exchange reserve	167	138	584	1550	6571	7749	15245
Exchange rate (won/US$)	130	272	317	484	660	890	680

Sources: The Bank of Korea, Economic Statistics Yearbook, vario
Economic Indicators of Major Countries, March 1989; and Econon
Board, Major Statistics of Korean Economy, various years.

Ninth, economic growth was accompanied by extensive investment in human resources. Total expenditure, both public and private, on education regularly exceeded 10 percent of GDP, the highest level among all the developing countries. The percentage of high school graduates advancing to colleges or university during the period of the 1980s was the second highest in the world after the US. This investment in education enabled Korean growth to be accompanied by a high level of income equality that remained relatively unchanged during the course of development.

Finally, government driven industrialisation resulted in an excessive concentration of industries and population in large cities, especially in Seoul and the Seoul region. The level of urbanisation in Korea was generally higher than the norm observed in other countries. As a result, such urban problems as housing shortages, lack of educational facilities, and poor public services began to emerge as serious domestic issues, in particular, after the 1970s.

2.3 Structural transformation

The rapid rate of growth of the economy resulted in a major transformation of its structure (see Table 3). The share of agriculture in GDP decreased from 39.9 percent to 10.8 percent between 1960 and 1987, while the corresponding share of the non-agricultural sector increased from 60.1 percent to 89.2 percent. During the same period the share of industry in GDP increased

significantly from 18.6 to 43.2 percent. The structure of industrial output reflected two factors. First, the country's poor resource endowment, with the mining sector, for example, contributing at its peak only 2.3 percent of GDP in 1960. Second, the significance of manufacturing sector growth over the period 1960-87 arising from the export oriented growth strategy. The contribution of the manufacturing sector to GDP was only 12.1 percent in 1960 rising to 31.6 percent by 1987, with this latter figure being much higher than the average 23 percent observable in advanced economies. The growth of the manufacturing sector, and its contribution to GDP, is the most noticeable feature over this period.

3 Korea's growth and trade promotion strategy

The major driving force behind the take off of economic growth was the adoption of an outward looking industrialization strategy based on export promotion from the mid 1960s. The context for this strategy, its stages and the evolving policy environment are now discussed.

3.1 Korea's development legacy

Korea's period of rapid economic growth, with its associated structure and distortions, was profoundly shaped by a number of social and historical developments (see, for example, Song (1990) and Amsden (1989)). These are: the country's Confucian emphasis on education and discipline; the legacy from the period of Japanese colonial rule (1910-1945); and the division of the country into North and South following the truce of July 1953. The latter two are now briefly discussed.

Japan formally colonised Korea from 1910-45, but even before this time it had already introduced a series of measures into traditional Korea that initiated the transformation of the country both economically and socially (see Amsden (1989)). During the period of colonization of the Korean economy the beneficiaries of its economic expansion was chiefly Japan and Japanese settlers in Korea. Although the growth rate of the Korean economy during the whole colonial period was nearly 4 percent per annum, in absolute terms the well being of ordinary Koreans worsened. Gross Domestic Product per capita increased remarkably, but Gross National product per capita for Koreans actually decreased. With liberation from the Japanese in 1945 the Koreans were, therefore, left in dire poverty.

Table 3 The Changing Structure of Production, 1960-87
(percentage distribution of GDP in current prices)

Sector	1960	1965	1970	1975	1980	1987
1. Agriculture	39.9	41	31.1	27.8	14.6	10.8
2. Industry	18.6	24.1	28.4	33.1	41.4	43.2
Mining	2.3	2	1.3	1.5	1.4	0.7
Manufacturing	12.1	17.3	19.1	25.3	29.6	31.6
Construction	3.5	3.6	6.4	4.9	8.2	8.1
Utilities	0.7	1.2	1.6	1.4	2.1	2.8
3. Services	41.5	34.9	40.5	39.1	44	46
Total (GDP)	100	100	100	100	100	100

Note: Sector classification is based on the World Bank method suggested in World Bank, World Development Report, 1987, 1988

Sources: The Bank of Korea, Economic Statistics Yearbook, 1978, 1989 and New National Accounts, 1986.

The deterioration of the Korean people's economic welfare during the colonial period can be traced to a number of factors (see Song (1990)). First, Korea was regarded by the Japanese as a source of cheap rice. Japanese landowners in Korea during the 1912-31 period shipped about half the country's total rice production to feed Japan's growing industrial workforce (Choi (1984)). Since a large fraction of Korea's agricultural output was shipped to Japan, real per capita consumption by Koreans actually fell during the last decade of the colonial period. Second, the country's other resources, such as timber, fishing and mining were exploited for the benefit of the Japanese economy and not the Korean economy. Third, Korea was used to settle Japan's surplus population, and given the best jobs in Korea. The number of Japanese in Korea increased from 170,000 to 770,000 between 1910 and 1945. Fourth, the Japanese used cheap workers from Korea for the development of Japanese mining and manufacturing industries. Skilled workers were also transferred to work in Japan. Fifth, Japan used Korea as a base for military training, and forcibly drafted young Koreans into the Japanese army. Sixth, Koreans were generally restricted to no more than a primary education. Seventh, Koreans were discriminated against and used in lower organizational positions and consequently had few opportunities to accumulate experience as leaders, managers, or negotiators. Hence Korea had a severe lack of competent politicians, bureaucrats, scholars, entrepreneurs and technocrats. Finally, the period of colonialism resulted in Koreans being largely isolated from experience in the international arena.

For all the negative features of Japanese colonialism there were some positive impacts as well, such as education, infrastructure (finance, transportation and commerce), and management experience in modern organizations (Amsden (1989), p.32, Mason et al. (1980)). Japan also dismantled one thousand year old dynastic institutions that had held back the advancement of the country. Koreans learned the Japanese way of doing business and managing the economy, and

remain the Asians who understand Japan best. Because of the colonial experience Koreans were in a position to make selective use of various Japanese institutions. Not surprisingly, Korea's experience of rapid development is often compared with that of Japan's.

Another historical legacy was the division of the country after the Korean War in 1953. Despite the devastation of the physical infrastructure in both the North and the South, the North was in a better position to rehabilitate its economy. It had the best mines and most advanced heavy industries. The South's legacy was less auspicious, being primarily agricultural, having been developed by the Japanese as a supplier of cheap foodstuffs for Japan's industrial workforce. The country's capital city, Seoul, had been severely damaged during the period of the war[7], with over 80 percent of industrial and infrastructure facilities and over half its dwellings destroyed. In addition, after the war, the South experienced a flood of refugees from the North, resulting in it being left with two thirds of the entire Korean population. As stated by Song (1990), p.42 'The South began its national reconstruction with too many people on too little land'. In addition, the maintenance of its borders required considerable military expenditure.

During the rule of President Rhee Syngman, 1948-60, economic recovery of the war-ravaged economy was slow and there was no well-articulated economic growth or trade strategy. The country was heavily dependent upon foreign aid from its allies, most notably the US. Industrial growth centred on policies relating to import substitution and was based on an overvalued exchange rate and reliance on massive foreign assistance[8], and there was massive investment on education. As most industries in Korea were consumer goods industries such as food and textiles, import substitution took place mainly in those industries. Access to foreign exchange, the securing from the government of subsidies of various types, and quantitative restrictions on imports, were the key determinants of business success. Access to government controlled foreign exchange, bank credit, and foreign assistance increasingly involved corruption and favouritism. Businessmen who became wealthy under these circumstances were widely suspected of corrupt dealings. When Rhee was ousted in April 1960, public sentiment demanded that such wealth be confiscated and the malefactors punished. Parliamentary government was established and Chang Myon became the Prime Minister, but his tenure was short.

3.2 Establishing a growth and economic development strategy 1962-71[9]

In a military coup on 16 May 1961, General Park Chung Hee ascended to power. At this time the Korean economy remained in dire straits. Most Koreans were poverty stricken, and per capita income was a mere US$82 in current prices. South Korea lagged behind North Korea both in terms of per capita income and industrial capacity. Rapid economic development became imperative, as was the need to identify an appropriate development strategy. The key issues were as follows. First, Korea had virtually completed import substitution in non-durable consumer goods and in the intermediate goods used in their manufacture. A growth strategy concentrating on import substitution in machinery, consumer durables and their intermediate products did not present a feasible option due to the smallness of the domestic market and large capital requirements. Second, Korea's natural resource endowment was so poor that a development strategy based on domestic resource utilisation was inconceivable. Third, US assistance, which financed most of the post war Korean reconstruction, peaked in 1957, and was gradually but continually declining in the early 1960s. Faced with this reduction in foreign aid, Korean policy

[7] The city changed hands four times during the period of the war.
[8] During the period from 1945-60, Korea received a total of US$3 billion in foreign aid (Tae (1972), p.12).
[9] This period covers the First (1962-66) and Second (1967-71) Five Year Plans.

makers had to consider how best to expand domestic saving and generate an alternative source of foreign exchange to finance projects and meet balance of payments requirements. Fourth, the availability of an abundant, cohesive, and well motivated labour force with a high educational level[10], and relatively low wages, provided the country with an initial comparative advantage in exporting light manufactured labour intensive consumer goods whose capital, and technology, requirement was minimal. This was ideal given the country's shortage of capital. Lastly, there was the determination of the military leadership to attain a high rate of growth, and a virtual lack of constraints on its ability to make decisions and to carry them out.

For these reasons the government envisaged that the way forward for the nation was: industrialisation through externally oriented development[11]; developing light industry and infrastructure; and expanding domestic savings and foreign capital accumulation. Consequently, Korea switched to an externally oriented development strategy from around 1962-63 (Ranis (1971, 1989)). This also involved relaxing import restrictions. If the government protected the consumer goods industries on the grounds that these light industries had to expand their exports and increase import substitution, private enterprises might have found it more profitable to supply domestic markets rather than foreign markets. Through the policy of relaxing import restrictions the government reduced the possibility of making a high profit in domestic markets. This policy attracted businesses to pay more attention to exportability, and at the same time produced competitive pressure for improved management.

The urgent need to catch up with, and out-perform, the North and to escape from poverty, necessitated the maximum possible growth, or growth at any cost, and became the basic cause of the forced expansion of exports and investment throughout the Park era. The government was in a position to deal as it wished with those businessmen who were suspected of corruption during the Rhee period. President Park soon reached an understanding with the business community, the essence of which was that: the government would exempt them from legal punishment; they in turn would pay off their obligations; and they would devote themselves fully to nation building through industrialisation. Park was, therefore, able to enlist the support of businessmen for the industrialisation through export growth strategy, and exert considerable control over them during the rapid expansion of trade and industrial growth from 1961 until his death in 1979. With hindsight such an influence enabled the government to bring about rapid economic development in the country, even thought the domestic market system was still at a very low level of development and sophistication. It also established a close relationship between government, the banking system and the large corporations that still endures.

Export targets were agreed upon between the government and individual firms, and were taken by businessmen as equivalent to compulsory orders. Firms that failed to achieve their export targets, without a plausible excuse, ran the risk of heavy administrative sanctions. Since the measure of success for firms was their export capability, firms tended to increase production and export

[10] In the 1960s the illiteracy rate was already well below 10 percent. The strong desire for education provided a high quality labour force and modern management ability as the stages of industrialisation unfolded (see for example Tae (1972) p. 56).

[11] As pointed out to the authors an alternative explanation for the adoption of the export promotion strategy should also be acknowledged. This argues that the adoption of such a strategy was not entirely the decision of the Korean government, but, rather, with the US cutting back on its aid program it enlisted the assistance of international institutions to identify alternative means for Korea to finance its development and this was the export growth strategy.

capacity as much as possible. This 'forced' expansion of output and exports resulted in a high and rising debt-equity ratio[12], as well as distortions in firm internal decision-making. Emphasis was placed upon the growth of large firms who were seen as being in a better position than small firms to expand export capacity and acquire and utilise technology, and the government also favoured a small number of large firms over a large number of small firms because this meant a narrower span of administrative control. Another reason why large firms were in a better position than small firms in expanding export capacity was that government owned banks were directed to give preference to large firms in the allocation of bank credit. From the early days of Korean economic development when firms were largely financed by bank loans under government influence, a relationship based system developed among firms, their banks and the government, through ownership, family ties and political deal making (Dobson (1998)).

On a number of fronts the development strategy proved to be highly successful. Economic growth which had been between 4 and 5 percent prior to 1962, doubled to an average annual growth rate of 8.8 percent during 1962 to 1971 (Lee (1996), p.19). Per capita income increased from US$82 in 1961 to US$286 in 1971. The industrial structure of the economy changed dramatically, with the proportion of the economy accounted for by agriculture and fishing, diminishing from 39.1 percent in 1961 to 27.2 percent in 1971. The manufacturing sector contribution increased from 12 percent to 20 percent of GDP during the same period. Exports increased rapidly, rising from US$41 million in 1961 to US$1,133 in 1971 (an increase of almost 28 times), producing an annual average growth rate of 39 percent. There was a massive increase in expenditure on domestic infrastructure, which laid the foundations for future growth. The rise in the nation's GNP pushed up the domestic savings ratio from 21.6 percent of total investment in 1961 to 60.9 percent in 1971, thereby increasing Korea's internal investment resources (Lee (1996), p.19). The development strategy also led to increases in employment, income and savings, by enabling the economy to benefit from economies of scale in production and technology transfer (Smith (2000b)).

3.3 The heavy and chemical industries (HCI) drive (1972-79)[13]

Despite the previous impressive outcomes the development strategy changed from the early 1970s, arising from a number of adverse side effects from the export driven growth. First, it contributed to a sectoral imbalance between the light and heavy industry sectors. Second, the export oriented industrialization program widened the gap between those engaged in export business and those in domestic business. Finally, by the early 1970s light industry exports began to weaken, highlighting the need to develop new exportable products. Consequently, in May 1973, Korea shifted from general export promotion and incentives to the targeting of heavy and chemical industries. This had three major objectives. First, to overcome obstacles to the further growth of the economy the implementation of import substitution policies focusing upon the development of heavy and chemical industries was thought desirable. Second, the development of such industries would also provide a source of new export growth industries. Finally, to correct the imbalance in the manufacturing sector caused by a growth policy that favoured light industry.

Under the HCI drive (1973-9), industry neutral incentives for exports were replaced by industry specific and, in some cases, firm specific measures (Smith (2000a)). The following HCIs were

[12] Between 1963 and 1971, the debt-equity ratio of the manufacturing sector increased more than fourfold from 92 percent to 394 percent, increasing further to 488 percent by the end of the HCI drive in 1980. The ratio fell over the 1980s and by 1990 was 285 percent (Smith (2000b)).
[13] The third (1972-76) and fourth (1977-81) economic development plans were launched during this period.

classified as ‘strategic’ – steel, heavy machinery, automobiles, industrial electronics, shipbuilding, non-ferrous metals and petrochemicals – receiving generous government assistance. The main tool of promotion was preferential access to bank credit. Over the course of the HCI drive almost 60 percent of total bank loans, and more than 75 percent of total manufacturing investment, went to these sectors, stifling the flow of funds available to light manufacturing industries and small and medium enterprises (SMEs). Investment, in turn, was funded predominantly by external borrowings resulting in a rapid rise in foreign debt from 25 percent of GNP in 1970 to 49 percent in 1980. Other HCI incentives included subsidies, tax reductions and exemptions (Rhee (1994)). Without such government incentives large companies would not have been willing to bear the risk and cost of such extensive investment in these industries.

The HCI drive went too far, however, and clear problems developed. The most obvious of which being associated with the development of the HCI industries themselves. First, their development contributed to rapid monetary expansion and aggravated the national budget. Second, many investments were made without sufficient analysis of their viability and impact upon the overall economy, and there were many overlapping investments. Third, the focus on strategic industries resulted in enormous economic inefficiency. Fourth, the socialization of bankruptcy risk that accompanied the HCI drive, combined with the low interest rate ceilings, made the cost of debt financing very cheap for firms in targeted sectors, encouraging firms to take on excessively high levels of debt and to increase market share rather than profitability and shareholder value (Huh and Kim (1994), p.26). Many HCI enterprises expected the government would bail them out since they had been established at the government’s behest. The result of these was excess capacity, inefficiency, sectoral imbalance, weakened corporate financial structure, and rising foreign debt Lee (1996), p.21). The financial status of corporations became more fragile because external borrowing was rapidly increasing at a rate much greater than that available through internal financing.

While the industrial conglomerates (chaebol) had already played a major role in Korea’s economic development during the 1960s, their period of most rapid growth was during the HCI drive. Their rapid growth and diversification during the 1970s radically transformed the industrial structure and market concentration in Korea. By 1977, 93 percent of all commodities were produced under monopoly, duopoly or oligopoly conditions in which the top three producers accounted for more than 60 percent of market share. Between 1972 and 1982, the share of manufacturing output of the twenty largest groups increased from 7 percent to 29 percent (OECD (1994), p.60). By 1980, the ten largest chaebol accounted for 48 percent of GNP (Kim (1997)). In addition, during this period, technology development began to be recognized as an important development strategy and only the chaebol had the resources to contribute to this.

The overemphasis on the HCI drive resulted in an overheated economy from 1976 to 1978, accompanied by a rapid increase in wages that surpassed the growth of labour productivity. This was exacerbated further by the Middle East construction boom in 1976. Korean construction companies amassed huge fortunes in the Middle East that was later invested in domestic land, sending prices sky high. This sequence of events caused one of the country’s worst bouts of inflation. As inflation continued it weakened export competitiveness, slowed export growth, and led to slow growth in key export industries and the economy as a whole. Export competitiveness was also being undermined due to an overvalued currency and under investment in the development of technology and training of skilled manpower by both the government and the private sector (Koo (1986), p.19).

In response to this the government announced the Comprehensive Stabilisation Program on 17 April 1979 (Smith (2000b), p.93). The program included restrictive fiscal and monetary management, price stabilisation, and investment adjustments in the HCIs in the short term, and economic liberalization in the long term. The exchange rate was substantially devalued in early 1980 and adjusted in line with fluctuations in the value of currencies of major trading partners However, during 1979-80 the program was not implemented in an effective way and economic conditions were further exacerbated due to: the second oil crisis; a bad agricultural harvest, and a domestic political crisis with the assassination of President Park in October 1979. Prime Minister Choi Kyu-Hwa became acting President of the interim government but was replaced by General Chun Doo Hwan under martial law in May 1980. The economic and political crisis during 1980 resulted in the first negative rate of economic growth (-2.1 percent) since the emergence of Park's regime (1961-79), and consumer price inflation soared to 28.7 percent.

3.4 Economic stabilization and liberalization (1980-87)

By the early 1980s, against a backdrop of political and economic crises, the economy was experiencing severe structural difficulties. The massive investment in HCIs and global and domestic economic downturn combined to leave many of the heavily targeted industries of the 1970s with severe over-capacity problems. In response a critical re-appraisal of the government's role in the nation's overall economic development took place, resulting, once again, in a major policy shift. The new authoritarian government of President Chun Doo Hwan[14] decided to focus policy upon economic stabilisation and liberalisation, establishing an unbiased incentive structure, promoting competition within the domestic market and from abroad, and preventing big business dominance in the market (Rhee (1994)). Korean industrial policy was to be based on the premise that direct intervention was no longer feasible or desirable in the light of the economy's changing industrial structure, and that greater reliance should be placed on private sector decision-making[15]. Its focus was now upon trade liberalization, financial liberalization, market opening, promotion of small and medium enterprises, antitrust legislation, greater opening to foreign investment, preferences for specific industries were to be reduced, and structural change toward the development of more technology based industries (Smith (2000a)).

Stabilisation policy outcomes

By the mid 1980s the economic stabilization measures achieved their desired objectives, as inflation decreased and the economy recovered its competitiveness, productivity and growth. From 1986 to 1989 economic conditions were given a further boost by favourable external conditions known, locally, as the three lows – low oil price, weak dollar, and low global interest rates. In 1986, for the first time in Korea's modern history, the nation's current account shifted into the black, where it remained until 1990, the balance of payments was in sizeable surplus, exports exceeded imports and domestic savings exceeded domestic investment for the first time since the First Five Year Plan. The economy registered a high annual growth rate of 12 percent. Industrial restructuring also made headway with the share of the manufacturing sector in total GNP[16] rising from 29.7 percent in 1980 to 32.2 percent by 1987. By late 1988, however, a presidential election, the Olympic Games, abnormally high wages and incomes growth, steeply

[14] He was inaugurated as President in March 1981.
[15] This direction was described at the time as the pursuit of a 'private sector led economy' as opposed to a 'government led economy' (Yoo (1990), p.106).
[16] Using current prices.

rising land prices, and ongoing structural problems in the economy (Lee (1996), p.26), combined to severely jolt economic stability. Economic growth slowed to 8 percent in 1989.

Trade liberalisation

Until the 1980s, trade policy formulation contained two features (Smith (2000b), p.94). First, there was only a weak constituency for trade liberalization. Traditionally, it was only used to appease trade partners and ensure that export markets remained open. This resistance also tended to be strongest when the balance of payments was deteriorating. Second, the process of decision-making over trade reform remained primarily political rather than economic. Consequently, Korea's trade policy tended to be conducted in an ad hoc manner with no central authority within the government formulating and articulating government trade policies. Import liberalization was usually undertaken on a micro basis with each commodity considered in isolation and with little regard for the macro level optimality governing the inter-sectoral allocation of resources (Young (1988), p.21). Little public debate about the costs and benefits of a trade policy measure to the national economy took place. Those sectors bearing the costs of protection were left uninformed and excluded from the decision making process (Young (1986), p.23).

While there was some import liberalization in 1979 the process stalled during 1980 and 1981 following balance of payments difficulties. Only after 1983, when the balance of payments began to improve, did a substantive trade liberalization program begin. The precursor for this was the establishment of a Tariff Reform Committee in 1983, which formulated a time-phased program of import liberalization measures (Smith (2000b), p.93). Priority was directed to liberalizing over protected commodities first and items that enjoyed a monopolistic market structure (Young (1986), pp.67-8). As a result of these measures the average nominal tariff rate was lowered from 24 percent in 1983 to 19 percent by 1988 and to 11 percent by 1990, and the import liberalization ratio rose from 80 percent in 1983 to over 95 percent in 1988. Tariff exemptions were also abolished for strategic industries in 1984. Many of the trade policy reform measures adopted during the 1980s were made largely in response to US pressure. Bilateral disputes centred on Korean macroeconomic policies, especially regarding the won-dollar exchange rate, and its growing bilateral trade surplus with the US from the mid 1980s.

Industry policy reform and technological upgrading

In the early 1980s the promotion of 'strategic' industries with preferential credit and tax treatment gave way to more indirect and functional support. The number of industries classified as 'strategic' decreased, and measures adopted for preferential tax treatment moved from direct forms such as tax deductions or tax holidays to indirect forms such as the allowance of tax-free reserves for expenses in technology development (Rhee (1987), p.31). Preferential interest rates which were formerly applicable to strategic industries or exporters were 'officially abolished in June 1982. No interest rate subsidy in 'explicit' form for any major loans was conducted and the size of policy loans was reduced. However, given that credit rationing was still the prime form of allocating financial resources, access to bank loans still carried inherent preferential benefits (Nam (1991), p.4).

During this period Korea experienced increased pressure to upgrade and restructure its industry from labour and capital intensive to technology intensive. A major obstacle to this was a lack of technological capability in Korean industry necessary to upgrade to higher value added activity. The closed and concentrated nature of Korean markets meant that Korean enterprises lacked

incentives to acquire or develop leading–edge technology (Graham (1996)). In contrast to its interventionist role in HCI industry development in the 1970s, the Korean government adopted a more facilitatory role towards technological upgrading during the 1980s. Over time the private sector gradually assumed a much larger role in the country's R&D efforts partly in response to increasing international competition and partly in response to a policy environment increasingly supportive of private R&D activities. R&D expenditure as a share of GNP rose from 0.74 percent in 1980 to 1.87 percent in 1990. While the private sector accounted for only 26 percent of the nation's total R&D expenditure in 1975, the figure increased to 75 percent by 1985. This was one of the highest proportions of private R&D expenditure among the advanced and newly industrialising countries (Kim (1997), p.56). Due to their resources the chaebols remained vitally important to the development of Korea's technology intensive industries, although, as discussed below, they remained highly leveraged and highly interdependent financially.

In contrast to a number of other countries in the region, Korea made relatively little use of FDI as a source of technology transfer during the 1960s and 1970s. Instead it tended to rely more heavily on external borrowing, technology licensing and the importation of capital goods. In fact, imports of capital goods, and the transferral of new foreign technologies embodied in them, far surpassed other means of technology transfer. The size of FDI and its proportion to total external borrowing were significantly lower in Korea than in other newly industrializing economies. For example, Korea's stock of FDI in 1983 was only 23 percent that of Singapore's, and less than half that of Taiwan's and Hong Kong's, while the proportion of FDI to total external borrowing was only 6.1 percent in Korea compared with 91.9 percent in Singapore and 45 percent in Taiwan (Kim (1997), p.42). In 1980, however, Korea liberalized its inward FDI regulations as a means of upgrading its technology. In July 1984 the government switched from the previous 'positive list' system to that of a 'negative list'. The government's more open policy for FDI was aimed at inducing the transfer of sophisticated new technologies and at promoting market competition for domestic firms to intensify their innovation activities (Kim (1991), p.226). Of the total US$3.6 billion of inward foreign investment into Korea during the period 1962-86, nearly 50 percent took place between 1982-86.

Financial liberalisation

Liberalisation of the financial sector began in the early 1980s, and included: privatization of commercial banks; unrestricted entry of non-bank financial institutions; abolition of the system of preferential interest rates for strategic or export industries; the introduction of new financial market instruments; modification of interest rate ceilings; relaxation of directed credit; and the financial sector was gradually opened to foreign investment[17]. While the government permitted banks greater discretion in setting interest rates and allocating loans, it did not relinquish control over these. The asset portfolios of commercial banks remained constrained by specific limits on lending to large companies, and subsidized lending from the central bank still distorted credit markets. Although the commercial banking sector became largely privately owned after the mid 1980s, the government did not allow it full managerial autonomy (Smith (1998)). Consequently, banks continued to have little discretion or incentive to control lending risk by screening projects and monitoring corporate performance. A moral hazard problem existed, where banks believed that their compliance with government lending directives would result in the provision of financial assistance should they get into difficulties[18]. Insider relationships between banks and borrowers

[17] A more comprehensive plan for liberalisation of the financial sector did not occur until the early 1990s under the so-called '1993-97 Financial Sector Reform Plan'.
[18] Indeed, there were very few instances of banks being allowed to fail.

still served to channel credit without regard for rates of return and at rates below the cost of funding. Declaring any sizeable industrial enterprise as bankrupt or writing off bad loans on bank balance sheets required the explicit consent of the government.

The regulated financial sector grew rapidly during the first half of the 1980s: total credit increased from 68 percent of GNP in 1980 to 94 percent in 1984. The major cause was the rapid expansion of non-bank financial institutions (NBFIs). The government's aggressive industrial policy in the 1970s had tended to retard their development[19], however their share in total credit increased from 37 percent in 1980 to 45 percent in 1984. Thus, the less controlled NBFIs contributed much more to the liberalisation of the financial system than did the still highly controlled banks. The liberalization of the financial sector resulted in the largest business groups becoming the dominant owners of commercial banks (nationwide city banks and local banks) and, in particular, of the NBFIs (short term finance companies, securities corporations, insurance companies etc.). They also dominated as borrowers from these institutions. At the end of September 1984, for example, the thirty largest business groups borrowed about 70 percent of the short-term finance companies' total credit as a result of the decontrols of entry into and ownership participation in the NBFIs.

After 1980 the government attempted to correct the high concentration of commercial bank loans to large companies and their subsidiaries, by ordering the banks to allocate more credit to SMEs. They mandated that 55 percent of any local banks' total credit and 35 percent of the nationwide city banks' total credit should be loans to SMEs. In addition, in 1984, the government froze the share of the thirty largest conglomerates in total bank loans at the end of 1983 level, and did not allow large firms whose debt-equity ratio exceeded 500 percent further access to bank loans. This initiative failed, however, as the share of SME borrowing in the net increase of the nationwide city banks' total credit decreased from 33.6 percent in 1983 to 27 percent in 1986, failing to reach the obligatory credit ratio of 35 percent. In fact, the concentration of credit allocation increased: the ten largest business groups in 1984 were the ten largest borrowers of bank loans; the share of the thirty largest business groups in total domestic credit (bank loans and payment guarantees) increased from 43.2 percent as of the end of August 1983 to 48 percent as of the end of March 1984.

This policy failure arose from numerous big businesses[20] becoming financially distressed by the mid 1980s and the government, under duress from these groups, providing them with more financial assistance through expanded bank credit. Hence the government continued to bail out an increasing number of troubled firms by forcing the banks to assume their debt (Park (1994), p.161). In practice the government averted bankruptcy of large enterprises by directing banks to provide relief loans or rescheduling debt. Banks saddled with a high proportion of non performing loans continued to depend on the Bank of Korea for low cost funds to support their outstanding loans, the bulk of which remained policy related (Huh and Kim (1994)). To avert bank insolvency, the Bank of Korea compensated banks for some of their losses through subsidized rediscounts. At the end of 1984 the Bank of Korea estimated that commercial bank non-performing loans was close to 11 percent of their total loans and 2.6 times their net worth. Commercial banks, therefore, continued to serve as the major channel through which policy directed loans were mainly distributed (Park and Kim (1994), p.195), despite government intentions of phasing them out. During 1985-9 policy directed loans were 35 percent of total bank loans (commercial bank and specialized banks) compared with 41 percent during the height of the HCI drive between

[19] As well as equity markets.
[20] Such as shipping, shipbuilding, and overseas construction.

1975-9.

Market concentration and competition

The HCI policy resulted in increased growth and concentration of economic power in the hands of the chaebol. They monopolized bank loans, seriously harmed the development of SMEs that formed the backbone of the economy, provided a stumbling block to industrial restructuring, guaranteed loans to inefficient subsidiaries, and engaged in unfair trade practices such as discriminating against companies outside their group. While these enterprises had made an important contribution to the development of the economy they began to stifle competition, incompatible with the movement toward a more market oriented economy, and imposed a severe burden on economic growth. Consequently, government policy shifted from the promotion of chaebol in the 1960s and 1970s to one of regulation of their growth in the 1980s. The introduction of the Monopoly Regulation and Fair Trade Act of 1980 included: the prohibition of cartel practices and cross equity investment among affiliated companies; a ceiling on credit to the larger chaebol; and restrictions on their vertical and horizontal integration by imposing limits on chaebols' total equity investment in their group firms[21]. This was supplemented by measures to restrict big business expansion through mergers and acquisitions. The government also directed the 30 largest chaebol to restructure their businesses around three or fewer core sectors (Kim (1997), p.34).

Despite government policy pronouncements the chaebol continued their fast growth until the mid 1980s. Their economic dominance in the early 1980s can be demonstrated as follows. First, the share of total manufacturing sales of the 5 largest groups increased from 15.7 percent in 1977 to 23 percent in 1985. Second, the combined sales of the 5 largest chaebols as a percentage of GDP increased from 12.8 percent in 1975 to 52.4 percent in 1984. Third, in 1983 70 percent of Korea's exports were generated by the top ten business groups. Fourth, the average annual growth rate of sales and assets of the nine largest business groups were 34.5 percent and 27.8 percent respectively, during the 1979-85 period, while the average growth rates of real GNP and the GNP deflator were 5.4 percent and 9.9 percent, respectively, for the same period. Finally, the 30 largest conglomerates controlled 270 firms and contributed about 10 percent of Korea's GNP in 1985. However, during this same period their financial structure steadily worsened: 83.5 percent of the ten largest business groups' asset growth was financed by debt during the 1979-80 period; their average debt-equity ratio increased from 356 percent in 1979 to 464 percent in 1985; the average debt-equity ratio of the thirty largest business groups was 498.5 percent in 1983 in spite of the continuous regulatory credit management policy towards these conglomerates.

The growth of the chaebol's did begin to slow around the mid 1980s reflecting the shift in government policy. The ceilings on bank credit to the top 30 conglomerates imposed in 1986 did have an impact in significantly reducing the chaebols' share of total bank lending. Bank loans to the 30 major chaebols as a share of total credit fell from 24.4 percent in 1987 to 18.3 percent by 1989. However, the share of non-bank credit to the 30 largest chaebols increased from 37.9 percent to 42.1 percent (Park and Kim (1994)).

As the promotion of chaebol faded attention turned more to the promotion of SME

[21] This latter measure, in particular, was intended to prevent chaebols from inflating their group firms' capital base and establishing new group firms without actually increasing their overall equity capital base (SaKong (1993), p.63).

manufacturing business, in the mid term revision of the Fifth Five Year Plan. In the revised document covering 1984-86 a separate section was devoted to the promotion of small manufacturing industries. The efforts to promote the growth of new businesses resulted in the enactment in 1986 of a special law to support the creation of small firms. Thereafter the number of manufacturing establishments increased rapidly. Establishments with over 5 employees increased from 24,957 in 1976 to 44,037 in 1985, according to the census of manufacturing. However, the Establishment Census of the National Bureau of Statistics put the number of manufacturing establishments with more than 5 employees at a much higher figure – 76,042 in 1986. In the latter half of the 1980s the government attempted to provide credit preferences for SMEs. Specific measures to aid SMEs included the requirement that they receive 45 percent of bank lending and barriers preventing the entry of large firms into certain types of business activities. These measures boosted the SMEs' share of value added in the manufacturing and mining sector, which averaged only 30 percent during the 1970s, to 46 percent by 1990, while their share of employment increased from 46 percent to 64 percent over the same period (OECD (1996), p.111).

4. Productivity or factor accumulation growth - was there an economic miracle in Korea?

This section reviews the quantitative evidence on the performance of the Korean economy during its period of rapid economic growth, as discussed in the previous two sections, with the objective of identifying the contribution to this from productivity growth relative to that of capital and labour accumulation. A summary of the main results from pertinent studies, within the broader context of East Asian economic growth, is contained in Table 4.

Table 4. Estimates of Total Factor Productivity growth in East Asia (annual percentage growth rates)

	Fischer (1993)	World Bank (1993)	Young (1994a)	Young (1994b)	Kim and Lau (1994)	Young (1995)	Marti (1996)	Collins and Bosworth (1996)	Osaka (1997)
Period of study	1961-1988	1960-1990	1970-1985	1970-1985	1950-1990	1966-1991	1970-1990	1960-1992	1981-1993
South Korea	1.7	3.1		1.1	0	1.7	1.4	1.5	2.1
Taiwan		3.8		1.5	0	2.6	2.1	2.0	
Hong Kong	-2.8			2.5	0	2.3	2.4		
Singapore		1.2		0.1	0	0.2	1.4	1.5	
Thailand		2.5	1.9				1.6	1.8	0.6
Indonesia		1.2	1.2				-0.5	0.8	
Philippines							-0.4	-0.4	-2.2
Japan		3.5		1.2	2.9		0.9		
Malaysia		1.1	1.0				0.4	0.9	
Method	Growth Accounting (Solow)	Econometric Approach	Econometric Approach	Econometric Approach	Econometric Approach	Econometric Approach	Econometric Approach	Growth Accounting (Solow)	Econometric Approach

Source: Adapted from Cook and Uchida (2002)

The World Bank (1993) study provided support for the high productivity growth thesis relating to the East Asian economies[22]. High estimates were obtained for productivity growth, and higher contributions of TFP to output growth, in Korea, Taiwan, Thailand, Hong Kong and Japan. The

[22] The World Bank results were based upon those obtained by Nehru and Dhareshwar (1993).

study concluded that this resulted from their superior success in allocating capital to high-yielding investments, to their catching-up technologically to the industrialized economies, and their pursuit of export oriented growth strategies. The other group consisting of Indonesia, Malaysia and Singapore were found to be investment driven with low productivity growth (Page, 1994). The World Bank claimed that compared with other economies `the East Asian economies stand out sharply with high absolute levels of total factor productivity' (World Bank (1993), p.55). The World Bank's position on the sources of growth and success of the East Asian economies falls in line with the so-called 'assimilationists' school. This school is represented by Romer (1993), Pack and Page (1994), Hobday (1994) and Nelson and Pack (1996), who ascribe the success of the East Asian developing economies to their ability to acquire and adapt foreign technology. They argue that these countries developed new skills and learned to use efficiently imported technology. The assimilationists position is reinforced by recent studies that have also found positive productivity growth (Marti, 1996; Osaka, 1997, and Sarel (1997)). The study by Osaka (1997), for example, found significant growth in productivity in South Korea over the period 1981-1993.

The contrasting view, epitomized by the 'Krugman thesis', questions the existence of the so-called East Asian miracle (Krugman (1994)). Krugman argued that capital accumulation rather than productivity growth was responsible for the rapid economic growth experienced by the East Asian developing economies. He suggested that the East Asian developing economies achieved rapid growth `in large part through an impressive mobilization of resources. Once one accounts for the role of rapidly growing inputs in these countries' growth, one finds little left to explain. Asian growth ... seems to be driven by extraordinary growth in inputs like labour and capital rather than by gains in efficiency' (Krugman (1994), p. 70). Krugman argued that economies that relied on the accumulation of factors of production as mechanisms for growth would eventually experience a slowdown in their growth performance as diminishing returns to factors of production take their effect. Table 5 indicates the rapid rate of growth of GDP in the East Asian economies over the period 1965-90 and the rapid rate of growth of capital and labour. From the sample of selected countries, Korea had the highest average annual GDP growth rate as well as one of the highest rates of capital and labour accumulation.

Empirical support for the view that the growth of the East Asian developing economies can largely be explained by the accumulation of factors of production is provided in the works of Young (1992, 1994b, 1995), Kim and Lau (1994) and Collins and Bosworth (1996) (see Table 4). They all estimated productivity growth to be low in most East Asian developing economies except for Young's estimate for Hong Kong in the 1994 study and Taiwan in the 1995 study. Kim and Lau recorded zero growth for Korea, Taiwan, Hong Kong and Singapore. The findings of these studies that capital accumulation in the East Asian developing economies did not result in significant increases in technological progress that may constitute a catching-up process, has been labelled the 'fundamentalists' approach (Felipe, 1997).

The current state of the debate over the sources of growth for the East Asian developing economies, therefore, appears to have reached a stalemate (Cook and Uchida (2002)). More recently, the debate has focused upon the way in which productivity is measured. The measures of productivity growth in the East Asian developing economies, as identified in Table 4, have relied either on forms of growth accounting or econometric estimation of a production function. Both approaches rely on the existence of a production function for the whole economy and on the validity of marginal productivity theory relating to factor pricing. The former have relied on the use of Tornqvist indices and Solow's growth accounting approach to estimate the rate of productivity growth. In the case of Solow TFP is estimated as a residual by separating out growth

that can be explained by movements along a production function and shifts in it, reflecting technological and organizational change. The latter approaches have attempted to estimate directly the production function using a variety of functional forms. The limitations of these techniques are well known (Nelson, 1981)[23]. Growth accounting is subject to well-known problems associated with approximation errors while econometric estimation is subject to measurement error, specification errors relating to the functional form, and the choice of a particular time period. In particular, production function-based approaches developed to estimate productivity growth rely on severely restrictive assumptions relating to their analytic framework and require the explicit specification of the production function and, as a consequence, are likely to suffer from significant measurement errors which may explain the conflicting results that have been produced in recent years. As a result further work employing a production function-based approach to estimation is unlikely to yield results that will be helpful in resolving the apparent inconsistencies reported in existing empirical work on East Asia (see Felipe (1997)).

Table 5. Average annual growth of GDP, capital and labour, percent, 1965-1990, East Asia and selected countries

		GDP	Capital	Labour
East Asia	Hong Kong	8.38	5.19	3.07
	Japan	5.02	8.84	0.99
	South Korea	**8.95**	**11.19**	**2.47**
	Taiwan	8.54	12.10	2.59
	Thailand	6.68	9.12	2.78
	Singapore	8.94	11.27	3.21
	Philippines	3.84	4.00	2.51
Others	France	2.91	5.07	0.89
	Germany	2.43	5.24	0.39
	Italy	3.34	4.34	0.47
	United Kingdom	2.25	3.65	0.50
	United States	2.68	4.13	1.84

Source: Cook and Uchida (2002)

5. Summary and conclusions

Korea's economic performance over the period 1962-89 produced a remarkable transformation of the economy. From being a poverty stricken, inward looking and economically backward economy in 1960, it was transformed into a globally competitive economy with a GDP per capita 65 times, a GDP 110 times, an export level 1860 times higher by 1989, and with a domestic savings ratio of 35.4 percent in comparison to only 0.8 percent in 1960. The catalyst for this remarkable transformation was the adoption of an economic growth and industrialisation development strategy based upon export expansion, focusing upon the growth of large scale enterprises who could take advantage of economies of scale and technology transfer in order to achieve international competitiveness. The government led growth and development strategy produced remarkable outcomes during the 1960s and 1970s. However, by the early 1980s it was becoming apparent the limits of this approach and that greater emphasis needed to be placed upon a market oriented strategy. The focus on large and not small enterprises until 1979 resulted in

[23] See also Felipe (1999) for an extensive and critical review of these procedures.

considerable market concentration and control by the industrial conglomerates. By the 1980s, with the advancement of the economy to the level of a developed economy, focus by the government moved away from coercive and discretionary measures, as under President Park, to the use of more market and non-discretionary measures. The development of a more competitive and liberalised economy had become paramount, as well as the need to develop technology intensive industries, and with more focus upon the development of SMEs. The government's control of credit allocation fuelled rapid industrialization in the 1960s and 1970s, but it also inhibited the development of an efficient banking system and fostered economic concentration. While the chaebol represented an important asset in Korea's industrialization, the absence of a healthy SME business sector was one of the weakest links in Korea's overall industrial structure.

By the mid 1980s Korea had become a trade surplus country and mature debtor nation, it became self sufficient in terms of its domestic financial requirements, and foreign debt also started to decrease. The future for the Korean economy, at this time, appeared to depend upon how the country managed its transition to maturity. In this regard, a number of issues appeared to be especially important: managing trade in the global context; conducting institutional reform; balancing equity and efficiency; how best to conduct the further transition of the economy from being government led to market oriented; and how to cope with capital market opening. However, as the experience of the 1990s began to unfold it was apparent that many structural problems remained. While the intentions of the reforms in the 1980s were good, they were insufficiently applied and ultimately flawed.

The empirical evidence on the performance of the Korean economy is inconclusive. However, the predominant position would suggest that during the period of rapid economic growth from 1962 to the mid 1980s this was primarily driven by factor accumulation. But there is also evidence to suggest that during the second half of the 1980s productivity growth exerted an increasingly important influence (see Cook and Uchida (2002)). Nevertheless the economic performance of the economy during this entire period is a remarkable one and should not be underestimated.

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