

Trade and Foreign Direct Investment Patterns in the Republic of Korea in the Aftermath of the 1997 Asian Financial Crisis

*Byung S. Min**

ABSTRACT

This paper shows that the Republic of Korea has experienced significant change in both trade and foreign direct investment (FDI) flows since the 1997 Asian financial crisis. The analysis indicates that a rapid increase in exports at the onset of the crisis helped to improve foreign reserves of the Republic of Korea and also helped the economy to recover from severe recession. Despite the crisis, the importance of the Chinese market has steadily increased to the point where it is the most important export market for the Republic of Korea, largely at the expense of the Association of Southeast Asian Nations (ASEAN) market.

The crisis also had a significant impact on FDI inflows, both in terms of source country and host industry. FDI increased sharply following the crisis, and this rapid increase was largely due to higher United States and European Union investment in the service sector, which is consistent with the wealth effect hypothesis on FDI flows. Meanwhile, Japanese FDI decreased, resulting in a decline in FDI in the manufacturing sector. However, the expected spillover effects of FDI are debatable,

(continued on page 4)

* The author is Senior Lecturer, School of International Business and Asian Studies, Griffith University, Brisbane, Australia. E-mail: B.Min@griffith.edu.au. The author would like to thank Joong-Wan Cho and the *Review's* referees for their valuable comments on the previous draft of the paper. Any errors are the responsibility of the author; the views expressed are those of the author and do not necessarily reflect those of the United Nations.

(continued from page 3)

due largely to a sharp increase in mergers and acquisitions, and FDI dried up in technology-intensive manufacturing industry. In contrast, the Republic of Korea's outward direct investment seemed to be little influenced by the financial crisis, although a further study of the implications of the crisis for the Republic of Korea's outward direct investment in developing countries, including the traditionally popular Asian region, also needs to be investigated further.

1. INTRODUCTION

This paper seeks to investigate movements in the Republic of Korea's trade and foreign direct investment (FDI) patterns including its outward direct investment (ODI) following the 1997 Asian financial crisis. Special attention will be placed on the analysis of policy issues and the challenges that arose in conjunction with the recovery of the economy of the Republic of Korea.

Why did the country's economy recover so quickly from the 1997 financial crisis? While the causes of the financial crisis are still controversial among economists, the subsequent recovery of the Republic of Korea's GDP growth rate was rapid and took the form of a V-shaped recovery (Aoki and Min, 2003). The GDP growth rate was 10.9 per cent in 1999 compared with -6.7 per cent in 1998; it was 9.3 per cent in 2000 although it dropped somewhat (3.0 per cent) in 2001.¹ There are many aspects to the Republic of Korea's recovery from both macro- and microeconomic perspectives.

Macroeconomic factors include a decline in interest rates from around 20 per cent per annum following the crisis to 5-6 per cent, which helped to break the vicious circle of high interest rates and corporate bankruptcies; they also include uncertainty caused by an increase in unemployment rates from the historical level of 4 to 11 per cent, motivating households to increase their savings, which in turn helped to improve the current account in a climate of poor corporate investment. Yet another factor was the Government's successful effort in rolling-over foreign debts and stabilizing foreign exchange markets (Aoki and Min, 2003).

From a microeconomic perspective the Republic of Korea has restructured both the corporate and financial sectors. The collapse of the Daewoo Group and dismantling of the Hyundai Group demonstrate that the notion that some companies were "too big to fail" is no longer valid. This restructuring has improved governance systems and the reliability of accounting information, strengthened competition policy for business conglomerates

¹ The GDP growth rate rose to 7.0 per cent in 2002 but dropped again to 3.1 per cent in 2003.

(the so-called *chaebol*), which helped to enhance economic efficiency and national competitiveness, and created market-friendly economic reforms such as the introduction of a managed floating exchange rate system (Min, 1999 and 2003).

Having taken these important domestic factors into account, this paper will focus on the Republic of Korea's trade and FDI in the period of crisis and recovery. It demonstrates that the impact of the 1997 financial crisis was significant across the economy. Special attention will be placed on the recovery of the economy by illustrating that the information/communication technology-led export boom, combined with policy reforms and subsequently increased FDI inflows, has significantly contributed to the recovery. Some challenges for foreign direct investment (inflows and outflows) and trade following the crisis will also be discussed.

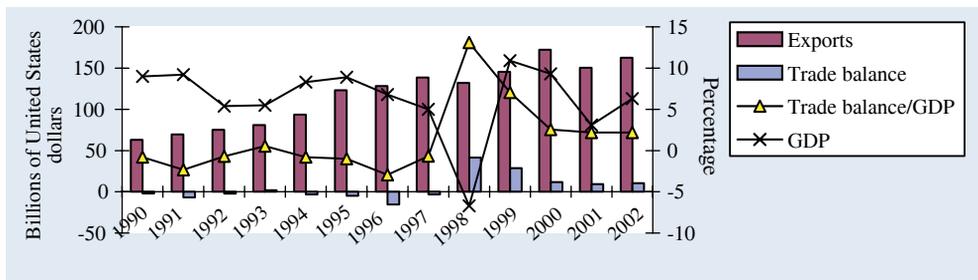
The paper is structured as follows: section 2 analyses the Republic of Korea's exports and its economic recovery, showing that a sharp increase in exports and foreign reserves was crucial to both restoring foreign investors' confidence and capital-market stabilization. Section 3 investigates the impact of the financial crisis, focusing on policy reforms and FDI inflows. This section shows that the Government of the Republic of Korea re-emphasized the importance of FDI to secure long-term commitments of foreign capital and the transfer of advanced technology and managerial know-how. Section 4 describes changes in FDI inflows and FDI outflows. Changes in FDI are discussed both in terms of source country and host industry. Some implications of the expansion of the Republic of Korea's ODI in Asia will also be explored. Section 5 examines some challenging issues such as the externalities controversy surrounding FDI, the terms of trade and market diversification. Section 6 contains a summary and conclusions.

2. EXPORT, CURRENT ACCOUNT SURPLUS AND RECOVERY

(a) Exports and growth

Figure 1 illustrates two important factors in relation to the Republic of Korea's economy. First, the fast recovery was led by increased exports and an improved trade balance. The Republic of Korea's trade balance was -\$11 billion in 1996 and -\$8 billion in 1997, respectively. However, the balance has shifted both in terms of sign and magnitude since the crisis. The Republic of Korea had a surplus in its overall trade balance between 1998 and 2002, with a balance of \$29 billion in 1998 and \$24 billion in 1999, record surpluses in the history of the country's trade balance; however, the figures declined to about \$9-12 billion between 2000 and 2002.

Figure 1 also shows that the GDP growth rate remained relatively high, although it fluctuated between 9.2 and 5 per cent between 1990 and 1997. It also indicates the resilience of the country's economy, as demonstrated by its rapid recovery. The Republic of

Figure 1. GDP growth, exports and trade balance

Source: Bank of Korea (various years). *National Account*.

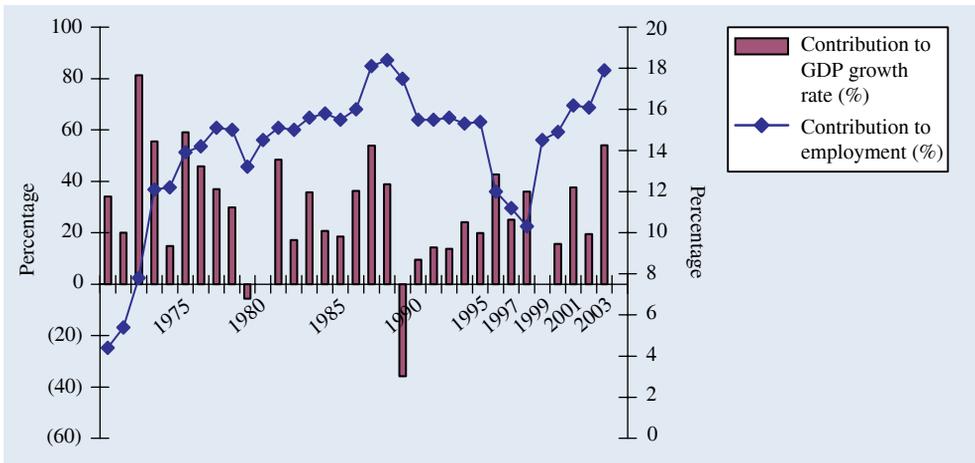
Korea's GDP contracted by 6.7 per cent in 1998 compared with that of the previous year. However, the growth rate recovered quickly to 10.9 per cent in 1999 and 9.3 per cent in 2000, respectively. While it dropped to 3 per cent in 2001, the growth rate bounced back from 2002 onwards.

Second, exports have been an important determinant of growth in the Republic of Korea. Changes in the trade balance reflect the total demand for home goods in the GDP equation. The potential benefits of exports for growth are due to the spillover from the export sector and productivity externalities, higher rates of capital formation and facilitation of capital imports through a lessening of foreign exchange constraints.

While the employment effects of export growth are still being debated, most of these benefits seem to have been present in the Republic of Korea's recovery (see figure 2). The graph shows the contribution of exports to the Republic of Korea's GDP growth rate (left scale), measured by the contribution of exports to GDP growth divided by the GDP growth rate, and to employment (right scale) over the last three decades. While both indicators fluctuated over the period, these figures show that the contribution of exports to both the GDP growth rate and employment was significant after the 1997 crisis. In particular, the contribution of exports to employment after the crisis increased sharply from about 10 per cent in 1997 to about 18 per cent in 2002. However, we note that the economy of the Republic of Korea recently experienced growth without generating additional employment. This is largely due to increases in the export of less labour-intensive products such as information technology (Shin, 2004). Furthermore, increased ODI in labour-intensive industries also adversely affected employment opportunities in the Republic of Korea.

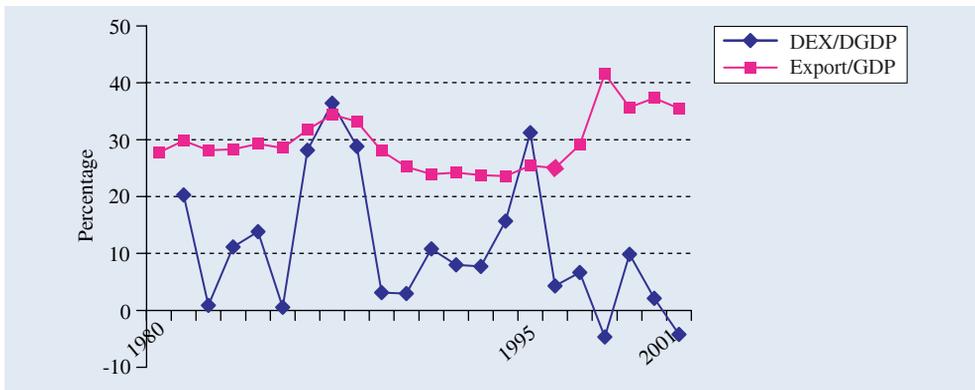
The contribution of exports to the economy of the Republic of Korea can also be confirmed by the high ratio of exports to GDP (EX/GDP) shown in figure 3. This ratio remained relatively stable at about 30 per cent before the crisis. It increased significantly after the crisis, reaching around 40 per cent, indicating that the importance of exports to the country's economy increased.

Figure 2. Export contribution to GDP growth and employment



Source: Ministry of Commerce, Information and Energy (various years). <www.mocie.go.kr/korean/pds/statistics/invest>.

Figure 3. GDP growth and exports, 1980-2001



Source: IMF, *International Financial Statistics* (various years) and *Major Statistics of Korean Economy*, (various years).

Note: The ratio of exports to GDP (DEX/DGDP) is calculated by the change in value of exports divided by change in value of GDP in United States dollars.

However, the movement of exports following the crisis illustrates that a rise in exports per se does not necessarily increase people’s living standards proportionately. The incremental increases in exports as a percentage of GDP (measured by the change in value of exports divided by the change in value of GDP) indicate that the Republic of Korea’s

export growth following the crisis was based largely on increased volume facilitated by lower unit prices (i.e., push factors). The ratio (DEX/DGDP) in the figure increased in the early 1990s, but dropped sharply after 1995 when the unit export price dropped sharply. In particular, the incremental share dropped below zero in 1998 (and again in 2001), indicating that the negative effect of lower export prices was more than offsetting the positive effect of higher export volume following the sharp depreciation of the “won” currency during the crisis. While the unit export price did not recover, the increase in the incremental share did rebound with rising export volumes.

(b) *Stabilized foreign exchange market*

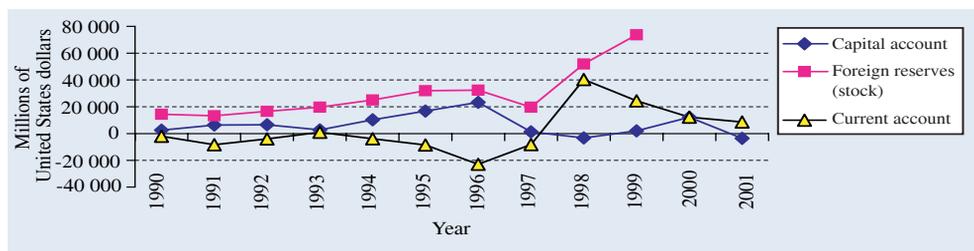
The current account surplus, coupled with the visible government-led restructuring of the banking (financial) sector and *chaebol*, was crucial to the recovery of foreign investor confidence in the economy of the Republic of Korea.

Most Asian countries, including Japan, experienced a banking crisis during this period, owing to a large number of non-performing loans (about 14-19 per cent) resulting from Japan’s “bubble economy” in the 1990s. However, one of the crucial differences between the crisis in East Asian countries and in Japan was the amount of available foreign reserves before the crisis.² In East Asia low foreign reserves, under a pegged exchange rate system, triggered speculative attacks on those countries’ currencies and led to herd behaviour and capital flight.

A current account surplus is crucial to the increase in foreign reserves. Figure 4 illustrates that the Republic of Korea’s current account mirrored capital inflows until 1997. However, the sharp increase in the current account surplus following the crisis has been much larger than capital inflows. As a result, the foreign reserve level increased dramatically in 1998. The increase in the current account surplus declined in 1999, although the current account remained in surplus. This surplus, coupled with a fall in net foreign assets, contributed to higher foreign reserves in 1999. The amount of foreign reserves increased from \$3.9 billion before the onset of the crisis to around \$95 billion in mid-2000 and \$150 billion (33 per cent of GDP in 2000) in late 2003. This increase in foreign reserves contributed to a restoration of foreign investor confidence in the value of the won, as demonstrated by the sharp appreciation of the won from late 1998.

However, an interesting question concerns whether or not foreign reserves are strictly necessary when a currency has been floated. Maintaining foreign reserves implies the existence of quasi-taxation, as the opportunity cost of keeping the reserves is relatively high.

² One major difference is that East Asian countries, including the Republic of Korea, relied largely on short-term foreign debt for their savings-investment imbalance (Aoki and Min, 2003). Also, Japan adopted a floating exchange rate regime, whereas most East Asian countries adopted a pegged exchange rate system.

Figure 4. Current account, capital account and foreign reserves

Source: Bank of Korea (various years). *National Account*.

3. IMPACT OF THE FINANCIAL CRISIS ON THE REPUBLIC OF KOREA'S GLOBALIZATION POLICY ON FDI

The 1997 financial crisis has led to a significant change in globalization strategies, including that of the capital market. In particular, reforms have focused on FDI inflows by allowing mergers and acquisitions (M and As) and classifying long-term (more than five years) loans as FDI.

The system of conventional acceptance of FDI notification was changed to one of simple notification (i.e., a complete notification system) with the introduction and implementation of the Foreign Investment Promotion Act in November 1998. This simplified procedure related to FDI through the acquisition of newly issued stocks (i.e., the establishment of 100 per cent subsidiaries, joint ventures and participation in capital increase) and through the acquisition of outstanding stocks. Foreign investors were allowed to engage in M and As with the permission of the board of the targeted company and of the Ministry of Finance and Economy as long as the total size of assets was less than 2 trillion won (approximately \$2 billion).³ In addition, removal of the remaining restrictions on FDI, including coverage and relevant institutional settings, was noticeable in view of the significant liberalization of goods before the crisis (Korea Investment Service Center, 1998).⁴ Long-term loans to improve facilities from foreign investors with a maturity of more than five years were regarded as FDI.

Out of a total of 1,148 FDI subject sectors, 1,117 sectors were completely opened and 18 sectors were partially opened to foreign investors at the end of 1998. Partially opened industries include cattle-raising, inshore/coastal fishing, alcohol distilling, tobacco,

³ Foreign investors would require permission from the Ministry of Finance and Economy if the size of the targeted firm is more than 2 trillion won.

⁴ See Korea Trade Association and Korea Institute for Industrial Economics and Trade (1997) for the tariffs, and Han (1998) for the liberalization of the service market.

power, gambling and some logistics and communication and media-related industries. The sectors that remained closed include some areas of national defence. Protection of the foreign investors' remittances of dividends and proceeds from sales generated from stocks and equities, as well as of principal and interest paid overseas from long-term loan contracts was strengthened. Overall, foreign investors enjoyed a more level playing field in the Republic of Korea.⁵

Tax incentive systems, finance and land support were also strengthened. Tax exemptions and reductions particularly targeted (a) businesses that produce advanced technologies, (b) service industries that support the manufacturing sector and are designated as subject to tax exemption and reductions and (c) businesses located in free export zones.⁶ These benefits include 100 per cent tax exemption for the first 7 years from the year in which income is first generated and a 50 per cent reduction for the ensuing 3 years. Financial support includes the allowance of short-term loans by foreign investors in specified cases. The Government also designated several new free economic zones, such as in Kwangju, Cheonan and Incheon, for FDI promotion.

The rationale behind this reform in favour FDI is as follows. First, having experienced the adverse effects of the quick decline (capital flight) in short-term capital, the Government of the Republic of Korea preferred the longer-term commitment of FDI inflows to short-term capital (portfolio) inflows. Second, an increase in long-term capital inflows via FDI was expected to send a positive signal for short-term capital flows on the capital account. Third, the Government wanted to improve economic fundamentals by transferring technology and managerial know-how from multinational enterprises, although the magnitude of such positive externalities has yet to be investigated.⁷

4. FDI AND RECOVERY OF FOREIGN INVESTORS' CONFIDENCE

(a) FDI inflows

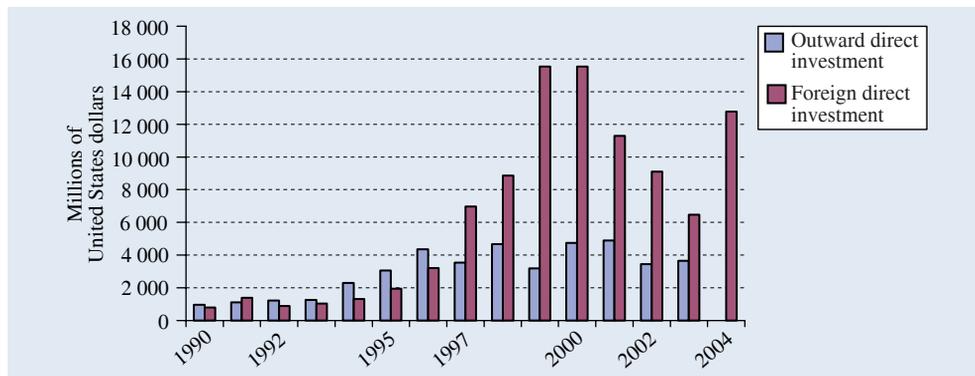
As described in section 3, the Government of the Republic of Korea removed regulations on FDI and strengthened incentives significantly after the 1997 financial crisis. In addition to its change in globalization policy and a recognized high standard of labour quality, the improved current account produced by expanded exports and a stabilized

⁵ In fact, foreign investors enjoy more favourable treatment than citizens of the Republic of Korea in terms of tax reductions and exemptions and location of investment.

⁶ These industries include (a) electronics, information and electrical parts such as industry/motor vehicle controlling systems, (b) precision machinery, (c) materials for basic material industries, (d) new materials, bio-industry, (e) optical science, medical machinery, (f) airspace, logistics and (g) environment, energy and construction such as sewerage treatment.

⁷ See Lee and Cho (2003) concerning the possibility of technology transfer via multinational enterprise in the information technology industry in the Republic of Korea.

Figure 5. Republic of Korea's foreign direct investment and outward direct investment



Sources: Ministry of Commerce, Information and Energy <www.mocie.go.kr/korean/pds/statistics/invest>; *Overseas Direct Investment Statistics Yearbook 1998*; *Major Statistics of Korean Economy* (various years).

Notes: Outward direct investment is arrival basis and foreign direct investment is notification basis. Average arrival rate (arrival/notification) for foreign direct investment between 1998 and 2003 was around 60 per cent.

foreign exchange market was helpful in the recovery of foreign investor confidence, which is evidenced by the surge of FDI flows into the Republic of Korea (see figure 5).

FDI inflows were slowly increasing before the 1997 crisis. The amount of FDI inflows totaled \$1.9 billion in 1995 and \$3.2 billion in 1996, but this constituted only 1.5 and 2.5 per cent respectively of the Republic of Korea's exports. In contrast to the dwindling ODI, FDI inflows began to surge from 1997 and maintained strong growth until 2002 when FDI began to decline, a trend that has since continued. FDI inflows in 1997 were valued at \$7 billion, which is more than double the previous year's figure. FDI inflows peaked in 1999 and 2000, reaching \$15.5 billion (11 per cent of exports) and \$15.2 billion (8.8 per cent of exports), respectively. This was followed by a downturn until 2003, although the inflows picked up again in 2004.

The increased FDI inflows following the crisis provide evidence of the recovery in the confidence of foreign investors in the economy of the Republic of Korea, although the inflows were also boosted by policy reforms aimed at removing distortions in FDI and the depreciation of the won currency. More specifically, this increase is attributable to pull factors and push factors. The pull factors were largely generated by policy reforms aimed at FDI, including granting permission for (hostile) M and As, new fiscal (taxation) incentives and fewer restrictions on foreign ownership. The push factors included the wealth effect created by the depreciation of the won against investors' home currencies. Exchange rate movement is a determinant of FDI flows. For example, the surge of

Japanese FDI into the United States in the 1980s was associated largely with the appreciation of the yen against the United States dollar, and this increased the bargaining power of the Japanese bidder, a phenomenon known as the wealth effect (Froot and Stein, 1991).

The value of the won dropped sharply during the 1997 financial crisis. At the end of 1997, the value of the won had depreciated by 40.4 per cent against the United States dollar and by 33.2 per cent against the Japanese yen compared with its value at the end of 1996. The trade-weighted CPI-based real exchange rate in the fourth quarter of 1997 and first quarter of 1998 also had depreciated by 17.6 and 34.0 per cent compared with the fourth quarter of 1996. By the end of the first half of 2000, however, the nominal exchange rate of the won with the United States dollar was stable at around 1,120, or 1,060 won per 100 Japanese yen.

The “boom and bust” cycle of FDI along with the onset of the exchange rate crisis seemed to support the wealth effect hypothesis. However, the resurgence of FDI in 2004 also indicates that increases in FDI are not sustainable without the foreign investors’ confidence in the host economy.

Table 1 clearly illustrates that increased FDI inflows after the crisis were largely led by improved United States and European Union investment at the expense of Japanese investment. The share of United States investment in the Republic of Korea before the crisis was around 27-30 per cent, but this increased rapidly after 1996. United States investment accounted for the lion’s share of foreign investment in the period 1997-1998, although it dropped in the period 1999-2000. However, United States investment rose again to account for nearly half of FDI inflows in 2002, before dropping sharply to 19.2 per cent and then resurging to 36.9 per cent in 2004. The table also indicates that European Union investment increased continuously until 1999. However, FDI in the Republic of Korea from the European Union began to decline in 2000, although it increased sharply in 2003 before declining again in 2004. The share of Japanese FDI in the Republic of Korea between 1962 and 1990 was 48.2 per cent. However, it dropped to 3.8 per cent in 1997, although it has picked up a little since then. Despite this recovery, with some fluctuations, Japanese investment never regained the historically high level recorded between the 1970s and mid-1990s.

Table 1 also shows a dramatic change in FDI by industry. Traditionally, most FDI has flowed into the manufacturing sector. The share of FDI in manufacturing stayed between approximately 53 and 65 per cent over the period from 1962 to 1996. However, the service sector has recently taken a greater share. This dramatic change accelerated after the 1997 crisis. The service sector’s share of total FDI increased continuously after the crisis and peaked at 73.1 per cent in 2002.

**Table 1. Foreign direct investment in the Republic of Korea
by source country and host industry**

Period/years	Total		Source Country (Percentage of total amount)			Host Industry (Percentage of total amount)	
	Amount (in millions of United States dollars)	Cases	United States	European Union	Japan	Manu- facturing	Services
1962-1990	7 874	5 337	28.5	12.5	48.2	65.4	34.1
1991-1995	6 598	2 929	29.9	32.5	23.0	53.7	46.4
1996	3 203	968	27.4	27.9	8.0	60.3	39.2
1997	6 971	1 055	45.8	33.1	3.8	33.7	65.8
1998	8 852	1 399	33.6	32.6	5.7	64.8	33.2
1999	15 541	2 173	24.1	40.3	11.3	45.9	53.8
2000	15 697	4 271	18.6	28.0	15.6	43.4	56.3
2001	11 291	3 418	34.4	27.1	6.8	27.4	72.6
2002	9 101	2 435	49.4	18.3	15.4	26.7	73.1
2003	6 468	2 564	19.2	47.3	8.3	26.2	63.9
2004	12 784	3 068	36.9	23.5	17.7	48.6	48.0

Sources: Ministry of Commerce, Information and Energy <www.mocie.go.kr/korean/pds/statistics/invest>; *Overseas Direct Investment Statistics Yearbook 1998*; *Major Statistics of Korean Economy* (various years).

Note: Percentages of total for the periods 1962-1990 and 1991-1995 were calculated as follows: sum of total amount over the period/sum of individual source country over the period.

This change in FDI by sector reflects the change in source countries and in the comparative advantage of the economy of the Republic of Korea. Most Japanese investment was directed towards the country's manufacturing sector, and this is consistent with the high share (65.4 per cent) of foreign investment in manufacturing in the Republic of Korea over the period from 1962 to 1990. Because of increased wages, some areas of manufacturing in the Republic of Korea seem to have lost their comparative advantage over China and ASEAN. In contrast to Japanese investment, United States and European Union investment in the service sector increased, particularly after the financial crisis. This includes investment in the financial sector as well as in the property market. The Government of the Republic of Korea planned to sell some troubled banks to foreigners and to open service markets, including distribution channels, to foreign investors. Since the onset of the financial crisis, foreign investors have purchased buildings in Seoul worth more than \$4 billion, which is the reverse situation to the purchase by Japanese investors of buildings in New York in the late 1980s (Froot and Stein, 1991). This change in FDI by sector also supports the wealth hypothesis of FDI inflows.

(b) *Outward direct investment*

While the reforms following the 1997 financial crisis focused on FDI inflows, the trend of ODI flows has also changed (see figure 5). In particular, the rapid momentum of the 1990s seems to have been lost. The Republic of Korea's ODI began to surge from the mid-1980s, when the economy had a significant surplus on the current account, largely due to a favourable exchange rate and low interest rates in the global capital market. Owing to the confidence in the current account balance, the Government gained confidence in capital account management and removed restrictions on ODI. Furthermore, domestic production costs rose sharply, mainly due to the surge in wages. This rapid upward trend lasted until the onset of the crisis, followed by a somewhat stagnant period with some fluctuations.

The Republic of Korea's ODI was led largely by labour-intensive and small and medium-sized (less than \$300,000) manufacturing companies, particularly since the mid-1980s (Cho, 1995; Bank of Korea, various issues). Manufacturing's share of total ODI increased from 26.4 per cent in 1986 to 56.5 per cent in 1996. The surge in wages was the main driving force for the exodus in textiles, clothing and primary and fabricated metals. Asia (including ASEAN and China) received the lion's share of this investment, followed by North America. In particular, ODI to China rose sharply to exploit geographical proximity and low labour costs in small and medium-sized firms, followed by ODI to the United States; Hong Kong, China; and Viet Nam. In contrast to manufacturing-led ODI to Asia, the Republic of Korea's ODI to North America and the European Union was led by trading companies. This reflects an attempt by small and medium-sized firms in the Republic of Korea to export to North America and the European Union directly, rather than adopting the traditional method of indirect exports through local trading companies.

The relative importance of large-sized firms in ODI seems to have increased following the 1997 financial crisis. For example, Hyundai motor company, Samsung and LG Electronics increased their foreign investment in Asia, North America and the European Union (including eastern Europe) after 2000. Despite the crisis, China remained the most important country for foreign investment in the Republic of Korea. The share of China in total ODI fluctuated between 15 per cent in 2001 and 47 per cent in 2003. In contrast with FDI, the Republic of Korea's ODI seemed to be little influenced by the 1997 financial crisis. The ODI figure dropped somewhat in 1999 but recovered to the historical level with some fluctuation until 2003 (figure 5). This trend reflects the strong Chinese economy and uncertainty about the United States economy owing to the hostilities in Iraq and rising oil prices (pull factors), as well as the surge in wages and rather weak business environment in the home market over the period (push factors). Manufacturing-led ODI remained unchanged following the crisis. This reflected the weak competitiveness of the Republic of Korea's non-manufacturing industries in the global market.

The implications for small and medium-sized firms are complicated. In contrast to large firms, the motivation of small and medium-sized firms in carrying out foreign investment was largely to overcome export barriers and cut labour costs (Cho, 1995). Recently, wage costs have risen in China as the economy has maintained high growth. As a result, investment in Viet Nam and the Democratic People's Republic of Korea, including the Kaeseong Industrial Complex, has increased.⁸

5. CHALLENGES FACING THE ECONOMY OF THE REPUBLIC OF KOREA

(a) *Does FDI guarantee positive spillovers?*

As described in the previous section, FDI in the service sector has recently increased sharply vis-à-vis manufacturing. According to the Korea Trade and Investment Association (1998, pp. 87-88), the prime reason for subsidizing FDI is to achieve the transfer of advanced technology by multinationals. However, the expected technology transfer effects of FDI seem to be insignificant, as FDI was located in labour-intensive industries rather than in capital/technology-intensive industries. At the end of 1996, only 9.4 per cent of FDI was located in the designated industries for technology transfer.

Recent trends in FDI following the financial crisis also indicate that foreign investment via the acquisition of outstanding stocks has surged. The share of M and As by foreign investors was 27.2 per cent in 1998 and 30.7 per cent in 1999, and then declined somewhat to between 15 and 17 per cent until 2003 (Kim, 2004). This increase in M and As following the crisis was due largely to policy reforms allowing M and As by foreigners and to the collapse of the asset bubble, the so-called "fire sale" following the financial crisis (Krugman, 1998). Interestingly, the effects of the fire sale in the manufacturing sector were evident at the onset of the crisis. The companies sold include Hansol Pulp and Paper, Halla Cement and Daewoo Motor Company. By contrast, most foreign investment in M and As targeting service industry companies, including banks and communications, was undertaken with a time lag of two to three years.

A large proportion of foreign investors were from international fund management groups rather than technology-based multinationals. As a result, the expected positive spillover of advanced managerial know-how is also debatable. The conflict between Sovereign Asset Management Ltd., a Dubai-based investment fund owned by two brothers from New Zealand, and the Republic of Korea's third largest business group, SK Corporation, in 2003 is a good example. Sovereign attempted hostile M and As with SK when SK had experienced difficulties resulting from an accounting scandal (Kim, 2004).

⁸ However, this investment is largely to produce imports for consumption in the source country, and political uncertainties and socialist economic systems in the host countries remain a major hurdle.

Sovereign purchased 19 million shares in SK at 1,750 won per share. The share price increased rapidly while Sovereign strategically threatened the owner-chief executive officer in order to force the company to improve its governance system. The estimated capital gain to Sovereign from its short-term investment in shares without tax was estimated to be 800 billion won (equivalent to \$800 million).⁹

However, survey results imply that FDI generated positive effects for domestic firms both in terms of technology and managerial know-how transfer in manufacturing (Kang and others, 2003). Furthermore, we need to consider that spillover effects are often invisible and difficult to measure in the short run. In addition, the definition of spillover can be broadly understood including various side effects. The Sovereign-SK incident in 2003 resulted in an improved corporate governance system for SK, with the announcement of the so-called “New SK Plan”.

(b) Terms of trade and market diversification

Movements in the terms of trade (TOT), as measured by the unit value of exports divided by the unit value of imports, reflect dynamic structural change in global markets.¹⁰ Whether or not worsening TOT are caused by demand or supply factors, a country experiencing falling TOT will nevertheless receive less in return for each unit of the goods it exports, and vice versa.

As a result, declining TOT has three important implications for the Republic of Korea. First, they erode the positive impacts of improved competitiveness and reduce the size of the surplus on the current account, given the level of exchange rates and interest rates. The worsening of TOT also provides a difficult policy challenge in terms of real exchange rate alignment. The Republic of Korea, like many East Asian countries, has often used a sterilizing intervention approach, regardless of the nature of the shock, mainly due to government intervention and regulation under conditions of imperfect capital mobility. However, such sterilizing intervention could also have delayed the alignment (depreciation) of the real exchange rate in 1996 when the current account deficit was caused by the TOT shock rather than by the domestic investment boom. Now, the Republic of Korea faces

⁹ Similarly, some United States-based companies, including New Bridge Capital and Lone Star, made a huge amount of short-term capital gains from M and As and reselling banks and commercial buildings in the early 2000s.

¹⁰ As a result, the movement in TOT is not caused directly by the changes in the balance of the current account. The level of investment following the crisis also dropped sharply. However, the adverse development in TOT between 1995 and 1996, coupled with the investment boom (including in semiconductors) began in 1994 that had been triggered by the expected recovery of the global economy, led to a sizeable deficit on the current account in the Republic of Korea. This, combined with the absence of prudential supervision, resulted in short-term foreign borrowing (particularly from financial institutions) and thereby raised the vulnerability of the economy to the 1997 financial crisis.

a TOT shock with a “floating” exchange rate regime and a reasonably sizeable current account surplus.

Second, TOT affects the country’s per capita standard of living and private consumption decisions. Third, the magnitude of the negative impacts of structural change depends on the elasticity of demand for exports and the ability of exporters to adjust to changing levels of demand. The following section focuses on the second and the third aspects.

(i) Movements in the terms of trade

Figure 6 shows TOT compared with income TOT and the unit price of the Republic of Korea’s major export goods (semiconductors) and import goods (petroleum) during the first quarter of 1994 and the second quarter of 2000. The figure illustrates a worsening trend in TOT over the period. The index value of 73 (1995 = 100) for TOT in the first half of 2000 was the worst in history. This deterioration of TOT was largely attributable to the drop in the unit export price of the Republic of Korea’s exports coupled with the rising petroleum price since mid-1999. For example, the unit export price of semiconductors fell sharply in the mid-1990s, causing a sizeable deficit in the current account.¹¹ The unit price dropped from 100 in 1995 to less than 50 in 1996, and further decreased to 12.2 in the second quarter of 2000. Because of the worsening TOT, the Republic of Korea needed to increase its volume of exports to improve its current account balance.

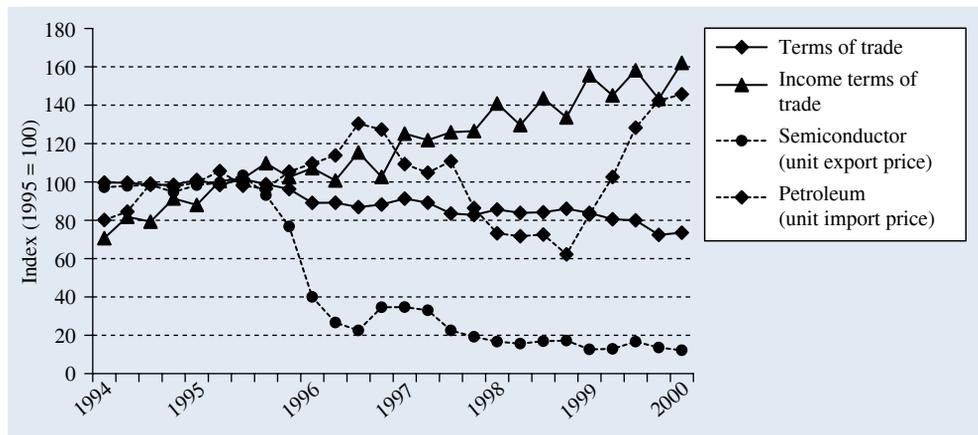
This drop in the unit price of semiconductors is puzzling because the demand for semiconductors was strong and supply was relatively stable. The strong United States economy in the 1990s was largely attributable to the boom in information technology. While the reasons for the structural adjustment of the semiconductor price have yet to be analysed, psychological factors in the market following the Asian financial crisis and concern about the potential information technology-led bubble, coupled with the relatively short life cycle of the product, seem to have affected cyclical fluctuations in price.

The lower petroleum price following the crisis, combined with the strong recovery of the global economy, were crucial external factors that enabled the Republic of Korea to achieve a rapid recovery. All of the country’s oil is imported from overseas.¹² However, the

¹¹ The shares of semiconductors in total manufacturing production and in total exports were 5 per cent and 9 per cent respectively in the early 1990s. However, the share in production increased to 13.6 per cent in 1997 and 21 per cent in 1998. The share in exports also increased to about 13-15 per cent in the late 1990s. The share of the Republic of Korea’s electronics production in the global total was 4.4 per cent in 1997, making it the fourth largest producer following the United States, Japan and Germany.

¹² For example, the Republic of Korea’s imports of crude oil in 2000 were worth about \$25 billion, which is equivalent to about 5.4 per cent of GDP in the same year.

Figure 6. Terms of trade, income terms of trade, unit export and import price for selected commodities



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

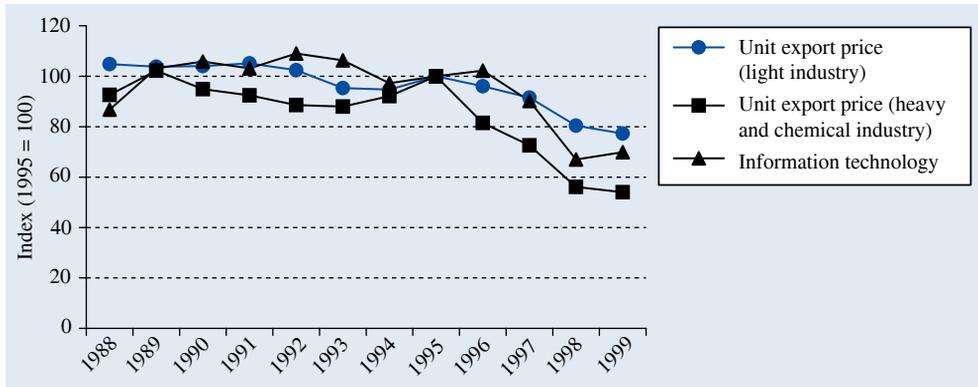
petroleum price began to rise significantly from the second half of 1999 owing to lower production, and this caused the deterioration in TOT. The index number for TOT rose from 60 in 1999 to around 150 in late 2000. Figure 6 also shows that income TOT, which measures import ability by total exports (value), was rising all the time, a situation largely due to the increased volume of exports.

Figure 7 shows that the decline in the unit value of heavy and chemical industry exports has been most noticeable since the mid-1990s. This decline was caused largely by lower prices for semiconductors, chemicals and steel. In contrast, the price index for information technology-related products, a major emerging export item for the Republic of Korea, was higher than the average index for heavy products and chemicals.

Was there a pass-through effect of the won currency depreciation on the Republic of Korea's imports following the crisis? The pass-through effect of depreciation refers to the proportion of depreciation that is translated into higher import prices in the depreciating country, and suggests that the unit price of imports in the depreciating country may also drop (Knetter, 1993). The apparent drop in import prices following the crisis seems to be consistent with this hypothesis. However, this drop in import prices was caused largely by the declining prices of petroleum and industrial commodities over the period. Petroleum prices declined from \$19.30 per barrel of oil in 1997 to \$13.70 per barrel in 1998, before rising to about \$30 by mid-2000.¹³

¹³ The average quantity of petroleum imports in the Republic of Korea between 1997 and 1998 was about 850 million barrels.

Figure 7. Trends in unit value indexes of exports



Source: IMF (various years). *International Financial Statistics*.

Note: Unit export price (light industry) is unit value index of exports for light industry, unit export price heavy and chemical industry is that for heavy and chemical industry, and information technology is that for information technology-related products.

The Republic of Korea's major import suppliers, including the United States and Japan, may be expected not to respond strategically to the depreciation of the won. The market in the Republic of Korea is assumed to be too small for these exporters to take action in order to preserve their market shares and stabilize prices in the buyer's currency relative to a constant markup policy.¹⁴ Thus, it is assumed that the decline in the unit value of exports is proportionately larger than that in imports. By the same token, there was no difference in the Republic of Korea's bilateral trade balance with Japan and the United States. However, the depreciation of the won vis-à-vis the Japanese yen raised the won cost of imports to the Republic of Korea (the dollar price, however, was unchanged and thus the trade balance remained the same in dollar terms), and the profit margins of firms in the Republic of Korea in local currency were squeezed by intermediate imports from Japan. As a result, the Republic of Korea's dependency on Japan for intermediate imports could moderate the positive effects of depreciation on exports at a given profit margin.

¹⁴ Athukorala and Menon (1994) also confirm that the incomplete pass-through of exchange rate changes is pervasive with Japanese exports. However, the paper rejects the widely held view that Japanese export firms have relied more heavily on pricing to market strategies during the period of yen appreciation in order to maintain market share. In spite of this, whether or not Japanese exporters and United States exporters showed different pricing behaviours in the Republic of Korea following the crisis is an interesting empirical question. The Republic of Korea was the second largest market for United States exports in Asia. The share of the Republic of Korea and Japan in United States exports was 3.7 and 11.4 per cent respectively and that in United States imports was 3.5 and 18.7 per cent respectively in 1991.

(ii) *Export market destinations: demand for exports*

Table 2 indicates three important points regarding the Republic of Korea's export markets. First, the Republic of Korea has diversified its export markets over the last two decades. Until the crisis, exports to ASEAN and China increased at the expense of those to the United States. The traditional heavy reliance on the United States market had been declining until the onset of the crisis. Exports to the United States rose until the mid-1980s, reaching a peak of 40.7 per cent of the total in 1986, and then began declining to 1997 (the net exports to the United States between 1980 and 1990 increased by 13.9 per cent, but between 1990 and 1997 they declined by 48.7 per cent).

Table 2. Shares of the Republic of Korea's major export countries
(Percentage)

	<i>United States</i>	<i>Japan</i>	<i>United Kingdom-Germany</i>	<i>ASEAN 5^b (ASEAN 4)^c</i>	<i>China</i>
1980 (A)	26.7	17.7	8.4	6.6 (5.0)	0.1
1985	40.3	17.1	7.1	5.7 (3.9)	0.2
1990 (B)	30.4	19.9	7.2	8.8 (5.9)	0.9
1995	19.4	13.7	7.1	13.6 (8.2)	7.4
1996	16.7	12.1	6.1	14.9 (9.9)	8.8
1997 (C)	15.6	10.7	6.3	13.8 (9.6)	9.8
1998	17.3	9.3	6.2	11.4 (8.3)	9.0
1999 (D)	20.5	10.9	6.2	12.0 (8.6)	9.5
2000	21.8	11.9	6.1	10.6 (7.3)	10.7
2001	20.7	11.0	5.2	9.5 (6.8)	12.1
2002	20.2	9.3	5.2	11.3 (8.7)	14.6
2003	17.6	8.9	5.0	10.4 (8.1)	18.1
2004	16.9	8.5	5.5	9.5 (7.3)	19.6
<i>Coefficient of variation^a</i>	<i>36.7</i>	<i>27.7</i>	<i>11.6</i>	<i>31.8(29.8)</i>	<i>78.1</i>
<i>Adjustment rate</i>					
(B-A)/A*100	13.9	12.4	-14.2	33.3(18.0)	800.0
(C-B)/B*100	-48.7	-46.2	-12.5	56.8(62.7)	988.9
(D-C)/C*100	30.1	1.8	-1.6	-13.1(-10.4)	-4.1

Source: Korea Foreign Trade Association (various years). *Trend of Foreign Trade*.

^a Standard deviation/mean *100.2 (1980-1999).

^b ASEAN 5 is composed of Indonesia, Malaysia, the Philippines, Singapore and Thailand.

^c In ASEAN 4, Singapore is excluded from the ASEAN 5 list of countries.

In contrast, the shares of exports to ASEAN and China rose sharply until the onset of the crisis. The Republic of Korea's exports to ASEAN included capital-intensive goods to support the industrialization of that region. Noticeably, this fast growth in exports to ASEAN took place in conjunction with the surge in the Republic of Korea's ODI to the region over the period. Exports to China surged dramatically in the mid-1990s due mainly to the establishment of diplomatic relations in the early 1990s, as well as to the country's geographical proximity. Meanwhile, exports from the Republic of Korea to the United Kingdom and Germany were relatively stable, although they have declined since the crisis. Because of the increase in exports to ASEAN and China, the Republic of Korea was able to diversify its export markets away from its heavy reliance on the United States market between 1980 and 1997.

Second, this geographical composition has changed since the crisis. In particular, the relative importance of the United States market increased again until 2000, when it once again began to decline. In particular, China emerged as an important market, especially at the expense of the ASEAN and Japanese markets. The strong United States economy over the last 10 years has led to an increase in imports, whereas the ASEAN economy lost purchasing power following the crisis.¹⁵ The strong United States economy was largely attributed to the growth in information technology industries, which raised the demand for semiconductors, the Republic of Korea's most important export item.

This change in relative importance is indicated by the adjustment ratio (measured by $(D-C)/C \times 100$ in table 2), with a ratio of 30.1 per cent for the United States, compared with -13.1 per cent for the five founding members of ASEAN.¹⁶ As a result, the share of these developed countries increased from 32.6 per cent in 1997 to 37.4 per cent in 1999. However, it is not certain whether this higher reliance on developed countries rather than developing ones suggests that exports will be more stable. The information on the coefficient of variation, as measured by the standard deviation divided by the mean, seems to suggest that exports to the United States market were more volatile than those to other markets.¹⁷ In fact, the Republic of Korea currently faces some major challenges in United States trade, such as an expected increase in competition for the market from other countries affected (depreciation of currencies) by the 1997 crisis as well as protectionist pressures caused by the imbalance in trade between the United States and the Republic of Korea.

Third, the sustained growth of the Chinese economy and the recovery of the ASEAN and Japanese economies are factors also crucial to the Republic of Korea's exports and growth. While there was a drop in the relative importance of the ASEAN markets

¹⁵ In the late 1990s, the United States GDP accounted for around a quarter of the global GDP.

¹⁶ The extraordinarily high number for China was due to the small number of base years (1980 and 1990) and thus comparative analysis provides little information.

¹⁷ Refer to footnote 8.

following the crisis, the complementary relationship between the Republic of Korea and the region indicates the importance of these markets for the country's exports. However, the relative importance of the ASEAN market after 2000 fluctuated somewhat; it was below its historical trend in the mid-1990s. Recently, the Japanese market has experienced fluctuations within an overall declining trend, and is still less significant than it was before the crisis.

The importance of the China market is particularly noticeable. In 1999, China emerged as the third largest single market for exports from the Republic of Korea (9.4 per cent of total exports) followed by the United States (20.3 per cent) and Japan (10.9 per cent), although the five founding members of ASEAN (12.0 per cent), as a region, is the most important destination. The importance of China increased continuously until 2004. China's share in the Republic of Korea's total exports was 14.6 per cent, making China the second most important market for exporters in the Republic of Korea in 2002. When combined with Hong Kong, China, the share was 20.8 per cent, making it the Republic of Korea's most important market in that year. This increasing importance of the China market occurred despite the 1997 crisis. The share of that market in the Republic of Korea's total exports reached 19.6 per cent, and it became the single most important destination for exports from the Republic of Korea in 2004.

6. SUMMARY AND CONCLUSIONS

This analytical research study indicates that the Republic of Korea has experienced significant changes in both trade and FDI inflows as well as outflows following the 1997 Asian financial crisis. The Republic of Korea's reliance on the United States market and China for its exports rose sharply following the crisis. In particular, China has emerged as the most important export destination, largely at the expense of the ASEAN market. This was due to its geographical proximity to the Republic of Korea and the increased competitiveness of Korean products in the China market. The United States consumption of products from the Republic of Korea increased sharply at the onset of the crisis. This was critically important for the restoration of foreign reserves and the subsequent stabilization of the capital market, although the relative importance of the United States market has declined again since 2001.

The increase in the surplus on its current account helped the Republic of Korea to restore foreign investors' confidence in the economy, which is evidenced by the surge in foreign direct investment. The crisis had a significant impact on FDI inflows both in terms of investment source and host industry. FDI increased sharply following the crisis and this rapid increase was due largely to improved United States and European Union investment in the service sector, which is consistent with the wealth hypothesis of FDI inflows. In particular, M and As by foreign investors increased significantly following the crisis. Meanwhile, Japanese FDI dried up, although it picked up again sharply in 2004, and this

caused the overall drop in FDI in the manufacturing sector. However, the magnitude of expected spillover effects from multinationals, including the transfer of advanced technology and managerial know-how, is still the subject of debate, which requires further investigation. Further study is needed on the implications (e.g., supply chain management and internationalization strategy) of the crisis for the Republic of Korea's ODI (particularly from small and medium-sized firms) in the context of developing countries, especially in the Asian and Pacific region.

REFERENCES

- Aoki, K. and Byung S. Min (2003). "Hyperbola of external debt: a lesson from the Asian crisis", *Journal of the Korean Economy*, vol. 4, No. 1, pp. 63-92.
- Athukorala, P. and J. Menon (1994). "Pricing to market behaviour and exchange rate pass-through in Japanese exports", *Economic Journal*, vol. 104, pp. 271-281.
- Bank of Korea (various years). *Economic Statistics Yearbook*.
- Cho, Y.S. (1995). *Structure and Performance of Small and Medium Sized Firm's Overseas Direct Investment* (Seoul, Korea Institute for Industrial Economics and Trade).
- Froot, K.A. and J.C. Stein (1991). "Exchange rates and foreign direct investment: an imperfect capital markets approach", *Quarterly Journal of Economics*, vol. 106, No. 4, pp. 1191-1217.
- Han, H.Y. (1998). *Opening Market Policy for Korea's Service Industry* (Seoul, Jipmoondang).
- Kang, D.Y., C.K. Park, W.B. Lee and C.W. Byun (2003). *Foreign Direct Investment in Manufacturing in 2003* (Seoul, Korea Institute for Industrial Economics and Trade).
- Kim, Y.Y. (2004). *Present Condition and Task of M and A* (Seoul, Korea Institute for Industrial Economics and Trade).
- Knetter, M. (1993). "International comparison of pricing-to-market behaviour", *American Economic Review*, vol. 83, No. 3, pp. 473-486.
- Korea Trade Association and Korea Institute for Industrial Economics and Trade (1997). *Options for Improving Tariff System to Support Industry* (Seoul).
- Korea Trade and Investment Association (1998). *Overview of Foreign Direct Investment* (Seoul).
- Korea Investment Service Center (1998). *Introduction to Foreign Direct Investment System* (Seoul).
- Krugman, P. (1998). "Fire-sale FDI", mimeo, March.
- Lee, K.H. and H.Y. Cho (2003). *A Study on Technology Transfer from Foreign Direct Investment: The Case of IT Industry* (Seoul, Korea Information Strategy Development Institute).
- Min, Byung S. (1999). "Impact of the financial crisis on bank-big business group relationship in Korea: some corporate governance context", *Economic Papers*, vol. 18, No. 3 (St. Ives, Economic Society of Australia), pp. 59-72.
- _____, (2003). "Dynamic prospects for Korean banks' monitoring of business groups" in M.J. Tcha and C.S. Suh, eds., *The Korean Economy at the Crossroads* (New York, Routledge Curzon), chapter 11, pp. 187-199.
- Shin, Y.S. (2004). "Structural change in Korea's imports and exports and its policy implications", mimeo, Korea Institute of Finance, Seoul.