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# 10 Issues in Korean Exchange Rate Policy

Stanley W. Black

## 10.1 Introduction

As a medium-sized, rapidly industrializing country that has just joined the Organization of Economic Cooperation and Development (OECD), Korea faces a number of unique problems that affect its exchange rate policy. Among these are its asymmetric competitive position vis-à-vis Japan, which is both its major supplier of machine tools and a leading competitor in third markets; the current policy of financial liberalization that goes along with democratic liberalization; and the implications of the potential future unification of the Korean peninsula. The role of Japan as supplier and competitor makes the widely fluctuating yen-dollar exchange rate a key determinant of Korean competitiveness and terms of trade. Financial liberalization is introducing capital flows as a major factor in exchange rate determination. And the impact of German unification on the European Monetary System (EMS) has raised many questions about the potential future effects of Korean unification. This paper will seek to explore these issues.

In the late 1980s, Korean exchange rate policy faced a situation called the “three blessings” or “three lows”: low yen-dollar rate, low oil prices, and low world interest rates. The first of these gave Korea an export stimulus, the second reduced the cost of energy imports, and the third lowered the cost of servicing external debt. The major issue at the time was how to prevent this windfall from causing an unsustainable inflationary boom and whether to allow the won to appreciate or to repay external debt.

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In a controversial move, the Korean government adopted a policy to repay much of its external debt, based on the assumption that the “three lows” were a temporary windfall. Balassa and Williamson (1987) argued at the time that appreciation of the won to reduce the external surplus was a more appropriate response, since it would permit additional domestic investment. Cho (1995) has supported this position with simulations indicating a much higher investment path if external debt had not been repaid.

Korea must have lived a charmed life, since until recently the world environment again wore some of the same beneficial aspects, including a low yen-dollar rate, low oil prices, and low interest rates. On the other hand, the low yen-dollar rate was one of a number of factors depressing the Japanese economy, an important market for Korea. Since mid-1995, however, the yen-dollar rate has risen significantly, removing some of the export stimulus. And oil prices have also risen from their lows of late 1995, while long-term interest rates have rebounded from their lows of early 1996. And different from 1988, competition from China and other Asian competitor nations is beginning to raise concerns for Korean policymakers. Financial market liberalization is a new factor affecting both the value of the won and the Korean balance of payments.

This paper will consider the question of the appropriate exchange rate policy for Korea in the face of fluctuations in the yen-dollar rate, increasing competition from lower cost Asian countries, and financial liberalization. Section 10.2 discusses the main exchange rate policy issues for Korea, dealing with external versus internal targets, choice of external comparison basket, and the effects of financial liberalization. Section 10.3 considers the issue of regional currency areas. Section 10.4 discusses Korean unification, and section 10.5 concludes with long-run equilibrium.

## **10.2 Fundamentals of Exchange Rate Policy**

### **10.2.1 Internal versus External Objectives**

The exchange rate defines the external purchasing power of a nation's currency. It is essential that this external purchasing power be consistent in the long run with the currency's internal purchasing power. Maintenance of the purchasing power of the nation's currency is the fundamental responsibility of the central bank or monetary authority. As is well known, there are two approaches to this fundamental problem.

The *internal target* approach consists in the central bank's defining and maintaining a rate of growth of the money supply that is consistent with price stability, defined as a low and stable rate of inflation. The exchange rate is not in this case a target for monetary policy, but simply an instrument that is controlled to ensure consistency between the internal and external purchasing power of the currency. This ensures the competitiveness of domestic exporters in international markets.

The *external target* approach involves setting a fixed exchange rate with a relatively stable currency, usually that of a large trading partner, and using the external price level to anchor domestic prices. In this case monetary policy-makers must act to keep domestic interest rates aligned with foreign rates and orient all policy instruments to maintaining the exchange rate. In case domestic inflationary factors cause the exchange rate to become overvalued, devaluation to restore competitiveness is required.

The choice between these two methods of monetary control and exchange rate policy depends on the relative importance of *flexibility* in the exchange rate and *credibility* gained by anchoring the domestic price level to world prices through a fixed exchange rate. This problem has been formalized by Devarajan and Rodrik (1991) in the context of a Barro-Gordon model (1983) of an open economy subject to terms-of-trade shocks. The central bank's credibility is in question because it has an output target that exceeds the level consistent with stable prices. Price and wage setters must choose their behavior before knowing the terms-of-trade shock or the current exchange rate. The central bank has two choices. It may commit itself to a fixed exchange rate, which prevents it from offsetting the terms-of-trade shock *and* from inflating to exploit the prior setting of wages and prices so as to achieve a lower unemployment rate. Or it may adopt a flexible rate to offset terms-of-trade shocks, which then allows it to indulge in inflationary behavior as well.

If the central bank has relatively strong anti-inflation credibility, it will not be tempted to inflate when given the option by flexibility. In this case, the flexible rate option will allow use of the exchange rate to offset terms-of-trade shocks without paying a cost in terms of higher inflation. However, if the central bank's credibility is low, this option is best forgone, in order to avoid the inflationary consequences.

What is the empirical evidence on the choice between pegged and flexible rates? Edwards (1993) has shown that countries with previous experience of low inflation may be able to use a fixed exchange rate to keep their inflation low. But those with high inflation may not be able to gain credibility simply by fixing the exchange rate.

Edwards (1996; chap. 1 in this volume) argues that political instability shortens the time horizon of the authorities and reduces their willingness to undertake necessary devaluations. The second factor makes a peg less attractive, while the first has ambiguous effects. His regressions incorporate political instability (measured as change in government), variability of external shocks, central bank credibility, and ability to sustain a peg with reserves. The findings confirm the importance of the economic and political factors.

It appears that high credibility and high variance of external shocks both contribute to a choice in favor of flexibility, as Devarajan and Rodrik argue. Political instability also contributes to the choice of a flexible rate, suggesting that the unwillingness to devalue may be important.

Considering a different aspect of credibility, countries with independent

central banks are found to have better records in controlling inflation than countries with central banks under direct government control (Cukierman, Webb, and Neyapti 1993). But Japan and Korea are both exceptions to these findings, since they have managed to achieve relatively low inflation without requiring their central banks to be formally independent.

The implications of these conclusions for Korea point in the direction of flexibility, it seems to me. One may argue that external shocks coming from the fluctuating yen-dollar rate will remain important. The central bank has established a significant degree of credibility. Governments are more likely to change in the future than they have in the past.

*Korea's choices.* For Korea, the choice among these options has evolved gradually (see table 10.1). During the Bretton Woods era, the external target approach was the universally chosen option. When floating exchange rates began, Korea continued to peg its exchange rate to the U.S. dollar during much of the 1970s. Since domestic inflation was not under control, occasional devaluations were necessary to keep the external purchasing power of the won in line with its falling internal purchasing power. But when the dollar began its radical appreciation during the 1980s, Korea shifted to a managed basket peg to keep the won from being pulled up with the dollar.

According to Oum and Cho (1995), in the 1980s Korea followed a policy of changing the exchange rate to adjust the current account, which is influenced by the exchange rate with a substantial lag, as in most countries. Since the Korean current account is heavily influenced by fluctuations in the yen-dollar rate, this set up a lagged feedback from the cycle in the yen-dollar rate to the won that caused the current account to fluctuate widely.

As the yen appreciated in the late 1980s after the Plaza Agreement, Korea's surplus grew, leading to appreciation of the won. By 1988 the yen peaked and began to depreciate, while the won kept appreciating as the surplus continued, despite the worsening of the underlying competitive position. Domestic investment increased moderately at first but then took off in an unsustainable boom in 1990–91, as the current account shifted into deficit.

In response to the exaggerated fluctuations of the won, the government in 1990 adopted a new exchange rate policy called the "market average rate" system. The most appropriate description of this shift appears to be from a

**Table 10.1** Korean Exchange Rate Regimes

Period	Regime	Characteristics
1955–72	Bretton Woods era	Inflation/devaluations
1973–79	Pegged to U.S. dollar	Inflation/devaluations
1980–89	Managed basket peg	Current balance target
1990–97	Market average rate system	Stable real exchange rate

target-based approach, targeting the current balance, to an instrument-based approach, trying to stabilize the real exchange rate. It seems to have approximately achieved stabilization of the real exchange rate, or maintenance of equilibrium between the external and internal values of the won, despite the fact that the won continued to follow the movements of the dollar more closely than the yen. (See Takagi, chap. 7 in this volume, and Frankel and Wei 1994)

During the early 1980s, Korea along with several other dynamic Asian economies took advantage of the sharp reduction of inflation in industrialized countries to bring its own inflation rate under control. As a result, since that time Korea has had the option to use the internal target approach to control the purchasing power of its currency. The liberalization of financial markets that took place in the 1980s has changed the environment in which monetary policy is made in Korea. Despite an inflationary boom period in 1990–91 and continued strong growth of the economy, the Bank of Korea has managed to hold the inflation rate in the neighborhood of 5 to 6 percent per year.

In conjunction with the liberalized financial system, Korea moved in the direction of a market-based exchange rate policy in 1990, allowing market factors to move the won-dollar exchange rate by up to 2.25 percent per day. At the same time, banks and other participants in the market have been allowed to hold foreign currency balances to enable them to create an interbank market for foreign exchange.

### 10.2.2 Choice of External Relationship

In a multiple-currency world, “the” foreign exchange rate must be defined relative to each trading partner whose currency is used in external transactions. For Korea, the primary trading partners are North America, Japan, Europe, and other Asia. The major currencies involved would thus be the U.S. dollar, Japanese yen, and deutsche mark (as a proxy for other European currencies). Since these exchange rates have fluctuated sharply in recent years, Korea has been forced to accept significant fluctuations in traded goods prices.

The main issue can be illustrated by the following hypothetical example. Assume that Korea exports only to the United States in dollars and imports only from Japan in yen. If  $e_y$  is the won-yen exchange rate and  $e_s$  is the won-dollar exchange rate, then export prices are  $p_s e_s$  and import prices are  $p_y e_y$ . The terms of trade will then be  $p_s e_s / p_y e_y = p_s / p_y e_{y/s}$ , where  $e_{y/s}$  is the yen-dollar exchange rate. If dollar prices and yen prices remain relatively stable, the terms of trade will fluctuate with the yen-dollar exchange rate, no matter what happens to  $e_y$  or  $e_s$ . This is the key problem for Korea. Only if the yen-dollar rate follows purchasing power parity will Korea be unaffected by its fluctuations.

If Korea pegs to the dollar, its import prices will then fluctuate with the yen-dollar rate, while export prices are stable. If it pegs to the yen, its export prices will fluctuate with the yen-dollar rate, while import prices are stable.

Choosing a *basket peg* enables Korea to balance its competing interests and minimize the fluctuation of traded goods prices. Define the basket as

$$e_k = e_s^{\alpha_s} e_y^{\alpha_y} e_{dm}^{\alpha_{dm}}.$$

Then pegging to the basket sets

$$\hat{e}_k = \alpha_s \hat{e}_s + \alpha_y \hat{e}_y + \alpha_{dm} \hat{e}_{dm} = 0,$$

where  $\alpha_s$ ,  $\alpha_y$ , and  $\alpha_{dm}$  are the weights applied to the dollar, the yen, and the deutsche mark (or European currency) exchange rates.

The weights are normally chosen to minimize the impact of the resulting fluctuations on the foreign currency value of the balance of trade. Assume that the export and import shares of the dollar, yen, and deutsche mark are  $w_i$  and  $v_i$  for  $i = \$, ¥, dm$ . Using the traditional model for exports and imports would put

$$\alpha_i = [\varepsilon(\eta^f - 1)/(\varepsilon + \eta^f)]w_i + v_i\eta,$$

where  $\eta$  and  $\eta^f$  are the domestic and foreign elasticities of demand for imports and  $\varepsilon$  is the domestic elasticity of supply of exports (assuming  $\varepsilon^f$  is infinite for a small country). If  $\eta^f = 2.5$ ,  $\eta = 0.7$ , and  $\varepsilon = 2$  for Korea (Kwack 1986), this would give weights approximately equal to the trade shares of the dollar, yen, and mark, or (using 1994 trade shares) 39 percent for the dollar, 36 percent for the yen, 25 percent for the mark.

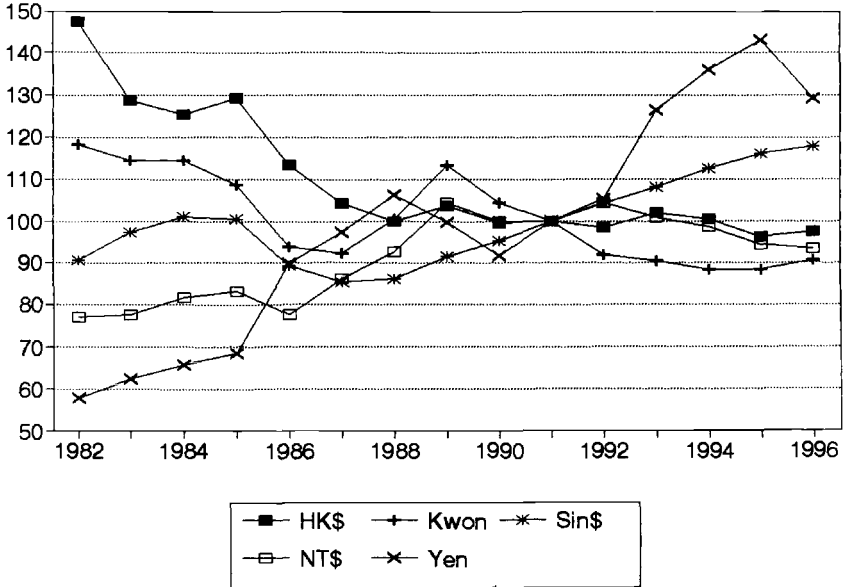
On the other hand, with \$30 billion worth of foreign exchange reserves, Korea may not have to worry about the availability of foreign currency. Weights that would minimize the impact on the domestic currency value of the balance of trade would limit effects on domestic output and employment. In this case, the weights should be

$$\alpha_i = [(1 + \varepsilon)\eta^f/(\varepsilon + \eta^f)]w_i + (1 - \eta)v_i,$$

which would imply weights of 43 percent for the dollar, 32 percent for the yen, and 25 percent for the mark. The larger role for the dollar under the domestic currency criterion reflects the greater importance of dollar markets for domestic currency export receipts, which have a higher elasticity than domestic currency import payments.

What this analysis omits is the impact of competing suppliers in the export market, which for Korea would be Japan and the other Asian industrializing countries, mainly Taiwan and Hong Kong. Including competitors would increase the weight on the yen and add Taiwan and Hong Kong to the basket. For the past 10 years, Hong Kong and Taiwan have both pegged their currencies very closely to the U.S. dollar. So the result would be to add to the weights of both the yen and the dollar in the basket, with perhaps little effect on the overall proportions (see Williamson 1995).

Even if Korea chooses not to peg its currency, the basket represents the appropriate basis for comparison of the movements of the external and domestic purchasing power of the won. Figure 10.1 shows the OECD's measures of



**Fig. 10.1 Asian effective exchange rates**

Source: OECD, *Economic Outlook*, vol. 58 (Paris, 1997).

nominal effective exchange rates of the won and related currencies. An inverse correlation will be noticed for most of the currencies relative to the movements of the Japanese yen. This reflects the degree to which their dollar pegs, especially during the 1980s, moved their currencies relative to the yen.

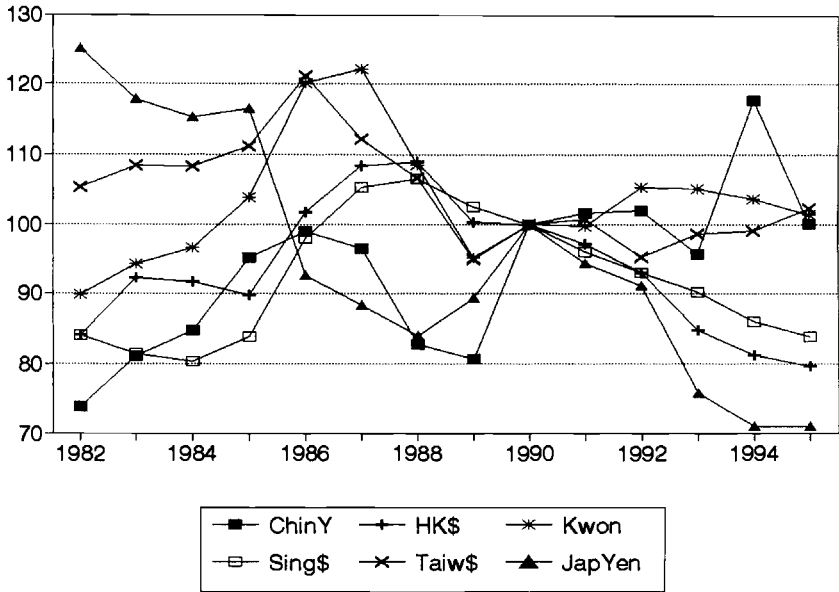
Figure 10.2 shows the corresponding real effective exchange rates, including my calculations for the bilateral Chinese yuan-dollar rate. During the 1980s most of the East Asian currencies moved inversely to the yen in real as well as nominal terms. In the 1990s, however, the Hong Kong and Singapore dollars have appreciated more in real terms than the Taiwan dollar, the won, or the yuan, which except for the latter have been relatively stable in real terms.

Figure 10.3 indicates the behavior of the won, in real and nominal terms, along with prices, as measured relative to consumer prices in industrial countries. From the perspective of stability in the real exchange rate, the market average rate system appears to be performing rather well. Put differently, the external value of the won is conforming more closely to its internal value.

### 10.2.3 Financial Liberalization

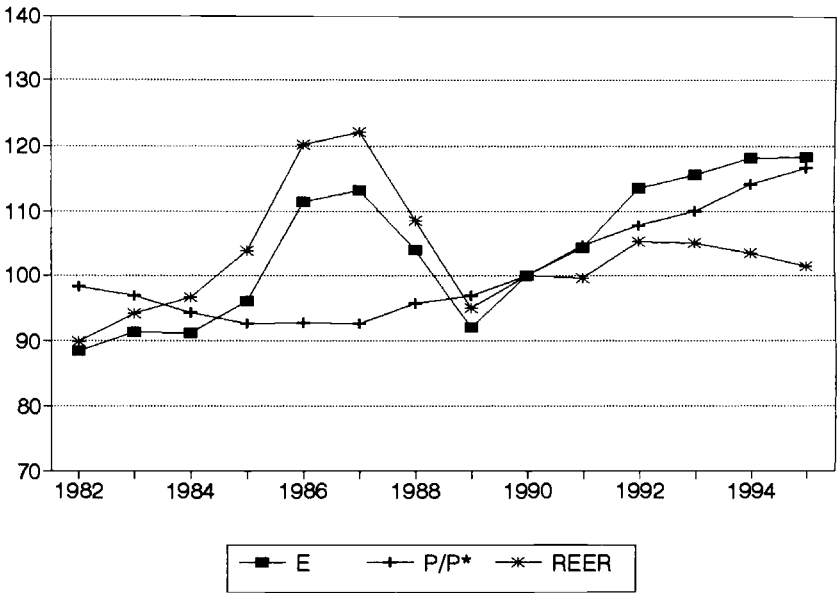
In July 1993 the Government of Korea announced a seven-year plan for liberalization of the financial sector of the economy (Park 1993). The major factors include gradually deregulating all interest rates except deposit rates by





**Fig. 10.2 Real effective exchange rates**

Sources: OECD, *Economic Outlook*, vol. 58 (Paris, 1997); International Monetary Fund, *International Financial Statistics* (Washington, D.C., various issues); author's calculations.



**Fig. 10.3 Korea's exchange rate and relative prices**

Sources: See fig. 10.2

1997, eliminating government influence over bank lending operations, encouraging the development of competition and new financial instruments, and liberalizing the foreign exchange market and capital flows. The purpose of this program is to use the financial markets to improve the efficiency with which financial resources are channeled to investment. In conjunction with this reform, the "real name" system was implemented in 1993, requiring all accounts to bear the real name of the holder. These major reforms are having important repercussions on the Korean economy and society. The tight network of personal relationships that has characterized the partnership between business and government is being replaced with more impersonal market-based relationships and explicit regulations.

The impact of financial liberalization on the foreign exchange market is significant. Kenen (1993) argues that the primary external effect of a credible liberalization of domestic financial markets in a developing country will be substantial capital inflow, leading to appreciation of the real exchange rate. He treats the existence of capital controls as equivalent to a tax on exporting capital. Liberalization eliminates the tax now and in the future. Thus capital inflow comes in response to the removal of the threat of future taxation of domestic financial assets. If the exchange rate is pegged, such capital inflows will require sterilization of large reserve inflows. If the exchange rate is floating, substantial nominal appreciation will occur.

But appreciation in response to capital inflow is only one possibility. Suppose that the capital controls limit both foreigners who wish to import capital and Koreans who wish to invest abroad. Their removal then leads to substantial portfolio diversification by both foreigners and domestic residents and a sharp increase in both capital inflows and outflows, with little impact on the exchange rate. According to Korean balance-of-payments data, both capital inflows and capital outflows have increased sharply since the liberalization of the financial sector in 1993. In the Korean context, the adoption of the real name system could itself lead to capital outflow. If formerly confidential transactions are now exposed to the authorities, in future such transactions would have to be carried out offshore to remain unknown to the authorities.

In actuality, the real (and nominal) exchange rate of the Korean won has appreciated since the beginning of the 1993–97 liberalization of financial markets. The reasons for this behavior are probably found more in the capital account than in the current account. During the period 1987–89, the influence of the current account on exchange rate policy was so strong that Korea's exchange rate appreciated strongly at the same time that reserves grew sharply and external debt was repaid. Then the external windfall temporarily disappeared with the rise in petroleum prices, interest rates, and the yen value of the dollar during the Gulf War crisis in 1989–90. Strong real wage growth during an inflationary boom provided internal stimulus. Korea's current account quickly turned negative, and the exchange rate depreciated in real terms during the period 1991–93. Thus the capital inflows, far from being a problem for

monetary management, were welcome financing for the current account deficit (Folkerts-Landau et al. 1995).

Associated with the program of financial liberalization is a substantial liberalization of the foreign exchange market itself, permitting banks, firms, and individuals to hold foreign currencies more freely and to make transactions more freely (Kim 1994). Also, the permitted daily fluctuation of the won has been gradually increased, moving in the direction of a freely floating system. This does not mean, however, that intervention will be avoided, as foreign exchange reserves have increased by \$14.5 billion since July 1993, in response to strong net capital inflows.

#### 10.2.4 Limiting the Rate of Capital Inflow

A range of policies may be considered in the effort to keep capital inflows from overwhelming domestic exchange rate and monetary policies (International Monetary Fund 1995). Keeping the exchange rate flexible will impose some costs on risk-averse investors and thereby limit capital mobility. Taxing the interest earnings of foreign investors will also limit the inflow of capital. Equivalently, the authorities may impose reserve requirements on foreign capital inflows. Intervention in the foreign exchange market will limit the impact of capital inflows on the exchange rate, which if unsterilized will lead to an increase in the domestic money supply. Some amount of sterilized intervention can also be used, at the cost of the interest paid on the bonds issued to soak up the increase in liquidity. Finally, the authorities could simply set limits on the allowed amount of capital inflows of various types. This last tactic, like the taxes and reserve requirements, may be subject to evasion. More seriously, it will create rents and may lead to rent-seeking behavior, bribery, and so on. In summary, the best policy to limit capital inflows will be some judicious combination of all of the above, together with allowing some nonpredictable amount of exchange rate appreciation.

### 10.3 Should Korea Join a Currency Area?

One solution to some of the problems of exchange rate policy is the formation of a currency bloc. By pegging to a single currency standard, whether that of a large country or of a group of like-minded countries (as in the case of the EMS), a country can reduce the exchange-rate-induced fluctuation in its traded goods prices relative to the members of the bloc. Needless to say, this makes sense only if the partner or partners have stable economies and inflation rates.

For Korea, there are only two choices here, either pegging to a basket including its major markets, such as Japan, the United States, and Europe, or pegging together with a group of competitors, such as Taiwan, Hong Kong, Singapore, Thailand, and Malaysia. The first possibility would essentially require Korea to choose between stability of traded goods prices and the ability to respond to external shocks, as discussed above. While this option could min-

imize the variability of traded goods prices, it would not eliminate the terms-of-trade fluctuations noted earlier.

The second possibility would require a group of diverse competitors at different levels of development to agree on exchange rate policy and therefore on monetary policy over an extended period of time. It is already clear that these countries face significantly different economic policy problems and have chosen different exchange rate policies in the past. The Hong Kong dollar has been pegged to the U.S. dollar since 1984, while both Taiwan and Singapore have steadily appreciated, Singapore much faster. In addition, Korea's financial liberalization is proceeding on its own schedule, independent of the other Asian industrializing countries.

The feasibility of a currency area also depends on the degree of symmetry of the shocks expected to hit the various member countries. Contemplating the potential members is not reassuring on this score. South Korea will someday have to adjust to reunification with North Korea. Hong Kong is facing reintegration with China and its own entirely different set of structural adjustments. Taiwan continues to face the threat of attempts to reintegrate it into China. Thailand and Malaysia are at different stages in the development process from Korea. Reviewing these issues indicates the advantages of an independent exchange rate policy for Korea, for the foreseeable future.

This does not, however, rule out the usefulness of increased monetary cooperation in East Asia. With growing capital mobility and the potential for external financial shocks to spill over into Asian markets, coordinated strategies for responding to external shocks could be attractive. Coordinated responses to wide fluctuations in the yen-dollar rate could help avoid the extent of fluctuations in real exchange rates that took place in the late 1980s.

#### **10.4 Implications of Korean Unification**

When and if Korea reunites, it will face major structural readjustment problems. The example of German unification suggests that such a large real shock may be more easily adjusted to with a flexible rate. While the full implications of reunification are beyond the scope of this paper, it is at least clear that there would be a large demand for new investment to enlarge the capital stock of North Korea, both public and private. Such a large demand shock might also be accompanied by a negative supply shock, if Korea were to follow Germany's example and raise wages in the north without any corresponding increase in productivity. The net excess demand shock would require a contractionary fiscal response. If this were not provided, as it was not in Germany, then tight monetary policy would be needed to prevent inflation. The real interest rate would rise, and the real exchange rate would appreciate at once, then depreciate gradually over time in keeping with uncovered interest rate parity. The size of the net excess demand shock and the implied exchange rate effect could be reduced by more appropriate fiscal policy and wage policy.

## 10.5 Long-Run Equilibrium

In an economy like Korea, where per capita incomes and real wages are rising strongly over time, one major factor affecting the equilibrium real exchange rate is the rising relative price of nontraded goods, as domestic labor becomes more expensive. Thus the real exchange rate would be expected to appreciate over time as traded goods become relatively cheaper.

The other major factor is the increased attractiveness of Korean real and financial assets, both to foreigners and to Koreans themselves, as rates of return continue to be high and the economy becomes increasingly integrated with the rest of the world. This will also tend to appreciate the real value of the currency, offset to some degree as Korean firms and individuals diversify their asset holdings abroad. Particularly evident here is the drive of Korean *chaebol* to establish overseas operations as part of the process of globalization.

However, structural weaknesses can limit the rate of real appreciation, because of the negative effect it has on the Korean current account. Currently, Korea has been losing market share in the United States to Asian developing countries, offsetting this with sales gains in rapidly growing Asian markets. Among several problems with this process are the increasing tendency of Korean firms to move production to other Asian markets and the continued reliance of Korean firms on imports of Japanese machinery for expansion. Unless Korea can overcome these weaknesses, its ability to resume a healthy path of gradual real appreciation will be in question.

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## Comment Chong-Hyun Nam

Black has written an excellent paper on the question of appropriate exchange rate policy for Korea. In addressing this delicate subject, he carefully examines the past experience of Korea's exchange rate policy as well as recent developments in its external economic conditions.

My comment will be very brief. Rather than repeating Black's conclusions, with which I agree, I will focus on one issue that I think requires more elaboration. The issue that I want to raise is: how can one detect and measure the existence of misalignment in the exchange rate for a small semiopen economy like Korea? Should we look at movements in the current account balance? Or the overall balance? Or some modified purchasing power parity indexes like the one Black has suggested in his paper?

In the past, up until the late 1970s, the Korean authorities looked more carefully at export performance for detecting a misalignment in exchange rate than at performance in the current account balance per se. They did so because the capital account was under the government's tight control, and thus the current

account balance was for the most part the intended one at the time. For instance, it was customary for the Korean government to make a long-term investment plan to ensure a desired level of output growth and then calculate the expected shortage in domestic savings. Then the government went out to borrow from abroad to fill the expected domestic savings-investment gap.

In the early 1980s, however, the Korean government began to restrain itself from intervening in resource allocation as well as in financing domestic investments. At the same time, the exchange rate system moved from a virtual peg to the U.S. dollar to a currency basket pegging system, which is classified as managed floating by the IMF's definition. During the 1980s, therefore, determination of the exchange rate was still under the government's discretionary control, and the government looked more carefully at movement in the current account balance in making any judgment on exchange rate misalignment.

But much confusion began to arise starting in the early 1990s, especially with the economy in a transitional period with ongoing capital market liberalization under the so-called market average rate system, which is virtually a floating exchange rate system. Problems arise mainly because both the current account balance and export performance tend to be affected in significant ways by the speed and scope of domestic capital market liberalization for both inbound and outbound flows. Furthermore, export performance can readily affect the economic growth rate, which is a priority concern for policymakers in Korea. Thus the appropriate exchange rate policy has become an inseparable issue from the policy of capital market liberalization in Korea. A major question rests on whether the overshooting effects of capital market liberalization should be and could be contained by government intervention in the exchange market, and if so, whether with sterilization or not? Much study needs to be done on these issues, I believe.

## Comment Baekin Cha

I am glad to have the honor of discussing Black's clear and forthright paper. I should merely like to elaborate on one of his points—the effects of financial liberalization.

Black is very right to tell us that the impact of financial liberalization on the foreign exchange market in Korea will be significant. Among many macroeconomic issues, the financial liberalization has been of the deepest concern to the business sector as well as to policymakers in Korea, and debates have been going on about its possible impacts on the domestic economy. On the one hand, financial liberalization and the likely capital inflow can be a contributing factor to further economic growth through (1) enhancement of international competi-

tiveness of Korean exports resulting from a reduction in business firms' general financial costs and (2) an increase in domestic investment resulting from a fall in domestic interest rates. On the other hand, massive capital inflow may lead to an appreciation of the real exchange rate of the Korean won, which would reduce the competitiveness of Korean exports and worsen current account imbalances. Given the well-known export-oriented characteristic of the Korean economy, such appreciation could easily be channeled to the domestic business cycle in a negative way.

Black is also right to say that appreciation in response to capital inflow is only one possibility. As he points out, if the removal of capital controls leads to equal increases in capital inflow and outflow, there would be little impact on the exchange rate. Although it is true that capital outflow also increased sharply after 1993, it seems doubtful that the magnitude and the trend of capital outflow could counterbalance those of the obviously huge inflow in the future, given the chronic excess demand for funds, the relatively high domestic interest rate, and the degree of current government regulations on investment abroad by domestic residents.

In response to the expected strong net capital inflow, a real policy question will then be whether there should or should not be foreign exchange market intervention, and if there should, what type of intervention will minimize the aforementioned negative impacts.

If the Bank of Korea does not intervene at all in the foreign exchange market, the exchange rate will carry all the burden of adjustment. The positive effect will be easier monetary control, which contributes to price stabilization, but the negative effects will entail appreciation and the resulting lower international competitiveness of Korean exports and current account imbalance.

If the Bank of Korea intervenes, there can be two cases. First, if the bank adopts a sterilized intervention policy by issuing monetary stabilization bonds to absorb the portion of money supply increased by the purchase of foreign exchange, the exchange rate will remain stable and the impact on export competitiveness and the current account balance will be minimized. But this policy will necessarily be accompanied by sterilization costs. For example, at the end of June 1998, the outstanding balance of monetary stabilization bonds was 42.4 trillion won and the interest payment was 2.5 trillion won.

Second, if the Bank of Korea chooses nonsterilized intervention, the positive effects will be a stabilized exchange rate, a reduction in domestic interest rates, and no sterilization cost. But the negative effects will be more difficult management of the domestic money supply and, more important, inflation.

The choice among the above seems the most imminent and important decision that the Korean policymakers must make. While Black's paper is a very useful study covering a wide range of issues related to Korean exchange rate policy, I believe additional benefit could have been gained if it had provided a more detailed opinion regarding the intervention policy issue.



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