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The Sharp Fall of the South Korean Won in 2008: the background and prospects

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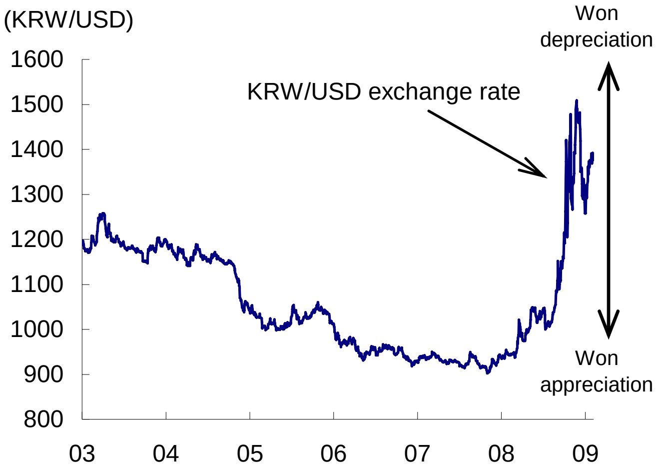
1. The sharp fall of the South Korean Won in 2008

In 2008 amid the worsening global financial crisis, most Asian currencies plunged, along with those of the emerging nations. The South Korean won, however, stood out, losing as much as 37.8% at one point during the year.

Looking back at the trends in the won-dollar exchange rate for the past several years (**Chart 1**), the won appreciated from the fall of 2004 until 2007, almost reaching the 900-KRW/USD level in November 2007; but the trend reversed after that, slipping to the KRW1,000 mark again in March 2008, for the first time in 2 years and 2 months. Initially, the South Korean government tolerated this as a necessary correction[1]; but as the won's plunge accelerated, the government changed its stance to halt the currency's further weakening. Despite the authorities' selling of the dollar in the market, the won's fall continued, reaching the KRW1,500 level in November 2008, for the first time in about 11 years.

In this paper, we will discuss the background factors of the won's drastic plunge since the spring of 2008, and consider its outlook in the near future.

Chart 1: KRW/USD exchange rate trends



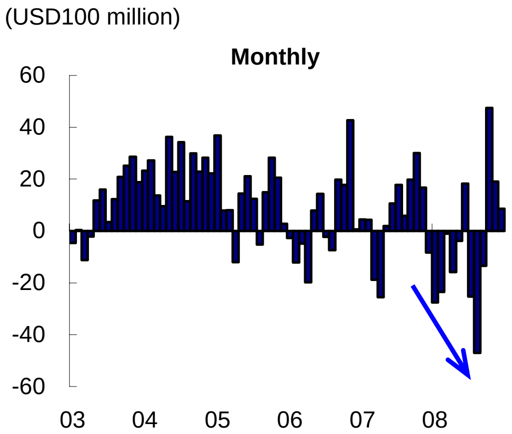
Source: Bloomberg.

[1] When the won rebounded against the dollar at the end of March, Choi Joong-Kyung, the Vice Minister of the International Finance Bureau of the Ministry of Strategy and Finance, said "a sharp depreciation of the Korean Won is not desirable but a sharp appreciation is even more undesirable".

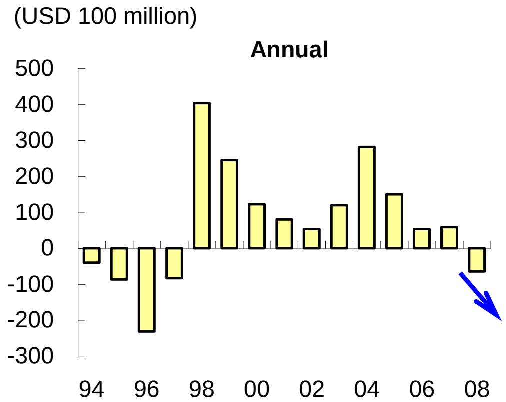
2. The first factor: deterioration in balance of payments

One of the factors for the sudden plunge of the won is the deterioration in the balance of payments. Before the Asian currency crisis, South Korea ran a current account deficit, but since 1998, it had maintained a current account surplus on an annual basis (despite occasional dips into the red) (**Chart 2**). Even though the current account had a surplus of USD6 billion in 2007, it fell into a deficit of USD9 billion during the period from January to October of 2008. While the current account turned to a surplus during the Oct-Dec quarter as stated later on in this report, the Bank of Korea estimates that the country will record a current account deficit of USD6.4 billion in 2008 on a full-year basis.

Chart 2: Current account trends



Source: Bank of Korea.



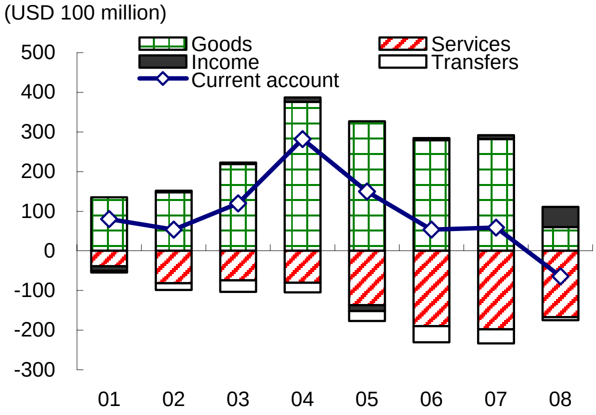
Note: Data on 2008 are estimates by the Bank of Korea
Source: Bank of Korea

Some attribute South Korea's current account deficit to the surge of the won between 2005 and 2007. Indeed, the nation's current account surplus shrank significantly during the appreciation of the won from 2005 to 2007. However, the surplus in the balance of trade for goods (a component of the current account) remained high during the same period. Therefore, a higher won did not seem to have a discernible effect on the balance of trade for goods during that period (**Chart 3**). Only in 2008 did the balance of goods surplus shrink significantly.

As for the balance of trade for services, South Korea has been constantly running a deficit, which soared from 2005 to 2007. The balance of unilateral transfers has been in the red, too, but the amount is small. Therefore, the main factor for the plunge in South

Korea's current account from 2005 to 2007 is the rise in the balance of services deficit.

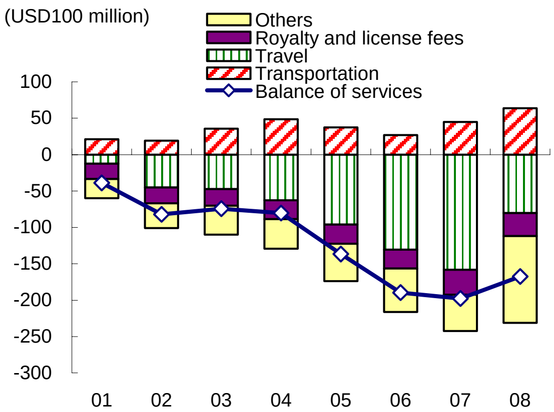
Chart 3: Breakdown of current account



Note: Jan-Oct for 2008.
Source: Bank of Korea.

Chart 4 shows the breakdown of the balance of trade for services. While the balance of transportation was constantly in surplus, the balances for travel, royalties and license fees, and of other services had deficits. The deficit in royalties and license fees remained relatively constant, but the deficit in travel and that in other services expanded over recent years; the deterioration was especially significant in the deficit in travel. The revenues for travel in 2007 were USD5.8 billion (down 4.5% from 2004), and expenditures for travel were USD20.9 billion (up 69.1% from 2004). While a stronger won did not have a discernible impact on the balance of trade for goods from 2005 to 2007, the balance of trade for services does seem to have been affected by a stronger won because of fewer foreign travelers visiting South Korea and more South Koreans traveling overseas.

Chart 4: Breakdown of balance of services

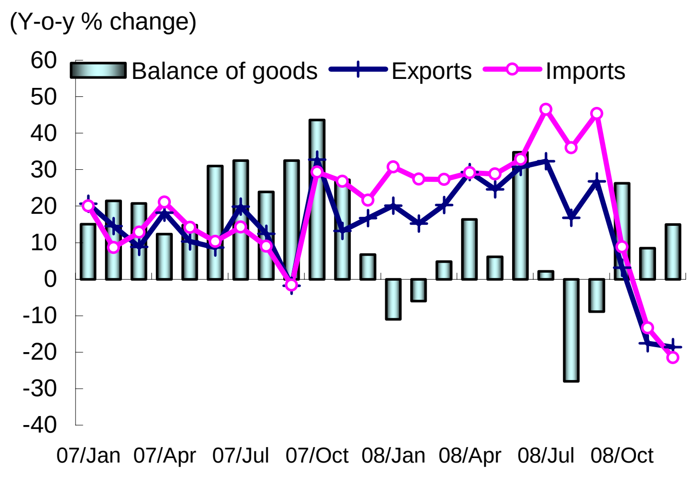


Note: Jan-Oct for 2008.
Source: Bank of Korea.

As **Chart 3** shows, while the deficit in services was high in 2008, the rate of increase in the deficit had slowed down. On the other hand, the surplus in goods had shrunk significantly. Therefore, the reason for the fall of South Korea's current account from a surplus to a deficit in 2008 may stem from the fact that the services deficit remained high (especially in travel) while the goods surplus dwindled.

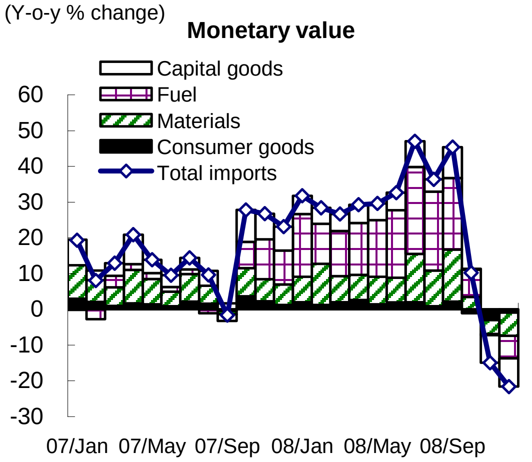
The South Korean government attributes the drop in the goods surplus mainly to the rapid increase in imports due to soaring raw materials costs. Breaking down the balance of trade for goods into imports and exports (**Chart 5**), exports did not drop or slow down significantly at least until about July 2008. The increase in imports, on the other hand, has remained higher than that in exports since October 2007. **Chart 6** shows the breakdown of imports by type of goods based on customs statistics (balance of payments statistics do not provide necessary information to get the breakdown). After October 2007, imports surged, in terms of value, pushed up by raw materials and fuels. In terms of quantity, imports for the same period did not see a significant increase year-on-year during the same period (mostly less than +10%). Materials and fuels did not have a noticeable effect, either. Looking at the period between October 2007 and September 2008, when imports surged in value by 32.2% from the previous year, the percentage increase breaks down to +25.1% in prices and +7.1% in quantities. In other words, the increase in the value of imports is mainly due to the rise in prices. Therefore, the South Korean government's view that soaring raw materials costs are the main reason for the drop in the goods surplus is reasonable.

Chart 5: Breakdown of balance of goods

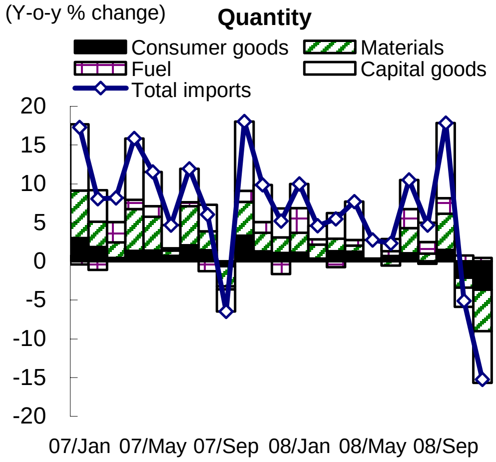


Source: Bank of Korea.

Chart 6: Breakdown of imports by type of goods



Source: Korea Customs Service.



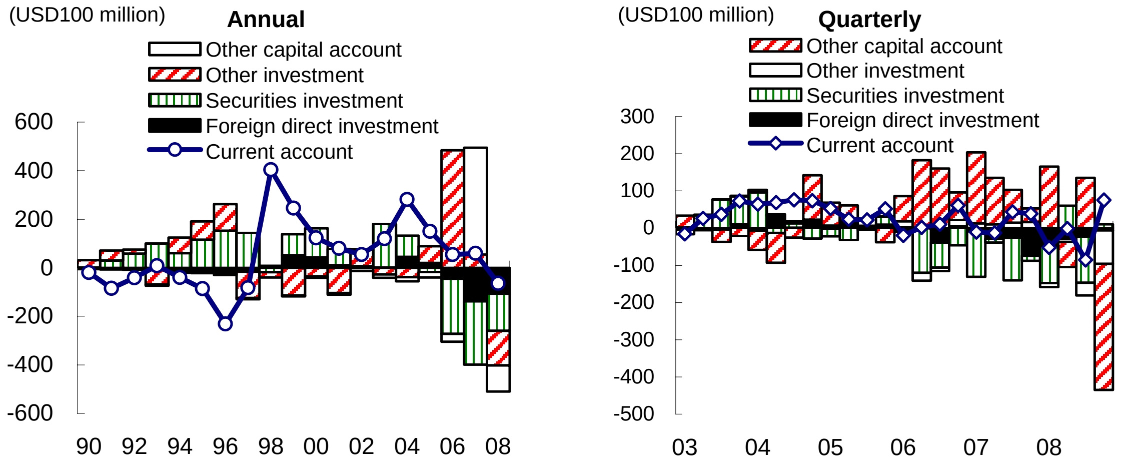
Source: Korea Customs Service.

Looking at the capital account (**Chart 7**), which is the other side of the equation, other investments[2] surged dramatically in 2006. During the mid-1990s, before the Asian currency crisis, the inflow of funds via security investments[3] and other investments expanded to finance a current account deficit. The repatriation of those funds by foreign investors triggered the currency crisis. As such, an expansion of capital inflows via these investments tends to cause concerns among investors.

The background for the surge in other investments over the recent years will be discussed in the subsequent section. For now, let us just point out that the current account remained in surplus through 2007, and that other investments did not surge as a way to finance a current account deficit, unlike the mid-1990s.

[2] Includes loans, trade credits, and currency & deposits.
[3] Portfolio investment including investments in stocks, bonds, and derivatives.

Chart 7: Trends in capital account

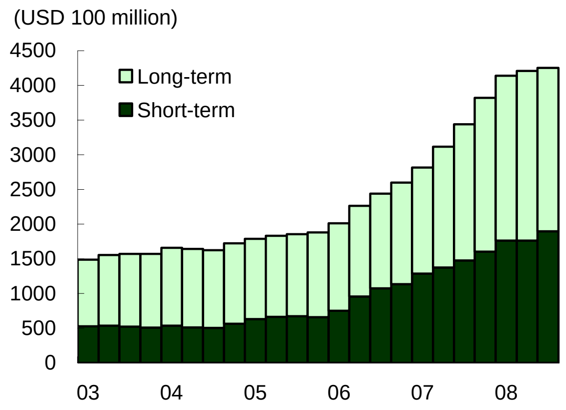


Source: Bank of Korea.　　Source: Bank of Korea.

3. The second factor: rapid increase of external debt

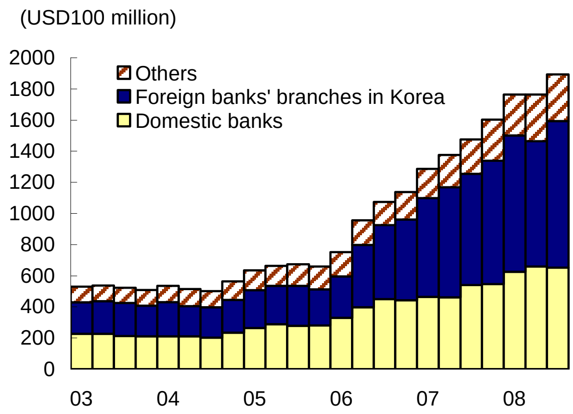
Over the past few years, South Korea's external debt has increased rapidly (**Chart 8**). Until the end of 2005, the nation's external debt remained below USD200 billion, but it exceeded that level in 2006 and soared thereafter, reaching the USD400-billion range in early 2008. The external debt balance at the end of September 2008 was USD425.1 billion, of which USD189.4 billion was short-term debt with borrowing periods of up to one year. Looking at short-term external debt by type of borrowers, borrowings by financial institutions, especially foreign banks' branches in Korea, grew rapidly (**Chart 9**).

Chart 8: External debt (breakdown by borrowing period)



Source: Bank of Korea.

Chart 9: Short-term external debt (breakdown by type of borrower)



Source: Bank of Korea.

Behind the rapid increase of financial institutions' holdings of short-term external debt are two factors: 1) the rise of borrowings to cover forward exchange contracts with exporters (e.g., shipbuilders) and trade credits (for advance receipts for exports); 2) forward-spot arbitrage transactions. As for 1), exporters, such as shipbuilding companies, did not use forward exchange contracts in the past, but have begun to do so after the won started to trend higher against the dollar and shipbuilding orders started to soar in 2005. With an internationally traded currency, banks that are counterparties in forward exchange contracts normally cover their positions in the forward exchange market. With the South Korean won, however, non-residents' access to the currency is restricted, and so the covered interest parity principle does not hold, rendering the forward exchange market imperfect. As such, counterparty banks, in many cases, borrow dollars and convert them to won to hedge against exchange rate fluctuations. This resulted in larger inflows of funds from overseas. In addition, note that shipbuilders do not receive payments for their exports for three to four years. Given the rise of shipbuilding orders in recent years, shipbuilders required more loans to fund their operations, and banks borrowed more money from overseas to cover the loans.

As for 2), amid strong demand for dollar selling by exporters, the forward exchange market continued to discount the dollar more than a theoretical exchange rate warranted, as the forward exchange market's price determination mechanism was imperfect as stated earlier. To take advantage of the distortion, many foreign banks engaged in arbitrage transactions by selling dollars (buying won) in the spot market, and buying dollars (selling won) in the forward market. Specifically, foreign banks invested the won procured in the spot market in highly liquid South Korean government bonds, after hedging against exchange rate risks through currency swaps. This is because the reduced liquidity of the dollar led the currency swap rates (CRS rate) to constantly fall below the South Korean bond yields, creating opportunities for securing interest spreads through arbitrage without bearing exchange rate risks.[4] To engage in these arbitrage transactions, banks borrowed more dollars.

However, since these dollar borrowings are matched by offsetting trades at the time of forward exchange settlements, the banks do not have actual burden of repayment. The International Monetary Fund stated, in its Article IV consultation report for South Korea (published on September 11, 2008), that about 50% of the short-term external debt was caused by factors described above (mostly borrowings by foreign banks' domestic branches as shown in **Chart 9** above); and therefore that while continued close monitoring is required, it would be going too far to say that South Korea will experience a liquidity crisis. On October 6, 2008, the South Korean government published data on the breakdowns of external debt as of the end of June 2008, which indicate that, of the nation's total external debt of USD419.8 billion (with short- and long-term debt combined), more than USD151.8 billion (36%)[5] represents debt without repayment obligation in foreign currencies.

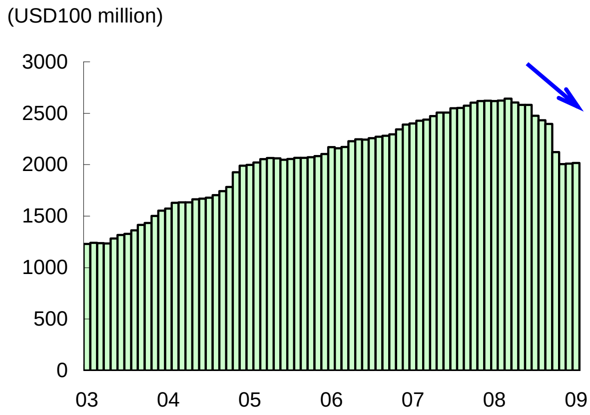
It should be noted, however, that while it takes three to four years for shipbuilders to receive payments for their ship exports as stated earlier, most of the external debt owed by financial institutions is short-term borrowings with due dates of up to one year. If the markets are functioning normally, and if there are no issues with refinancing external debt, financial institutions' debt will be offset when shipbuilders receive payments for their exports. After the summer of 2007, however, the subprime loan crisis in the United States triggered credit uncertainties around the world, making it more difficult for financial institutions to obtain funds in foreign currencies, and therefore to refinance external debt. The sudden surge of demand for dollar funds when the debts matured most likely led to the sharp tightening of dollar liquidity. Meanwhile, given the decline of foreign exchange reserves since peaking in March 2008 due to market interventions to prop up the won, the sharp rise of market concerns regarding the dollar's liquidity caused

[4] Overseas investors procure dollars at LIBOR in the international money market, receive LIBOR in South Korea's currency swap market, pay the CRS rate to convert the dollars into won, and then invest them in South Korean bonds. After the subprime mortgage problem triggered credit worries across the globe, the dollar funding cost increased for financial institutions in emerging economies including South Korea, causing the CRS rate to decline.

[5] This is the total of the following: borrowings in foreign currencies related to forward exchange contracts – USD93.8 billion; advance receipts for ship exports – USD50.9 billion; lending between affiliate companies related to direct investments – USD7.1 billion.

the won to plunge in the fall of 2008 (**Chart 10**).

Chart 10: Foreign exchange reserves



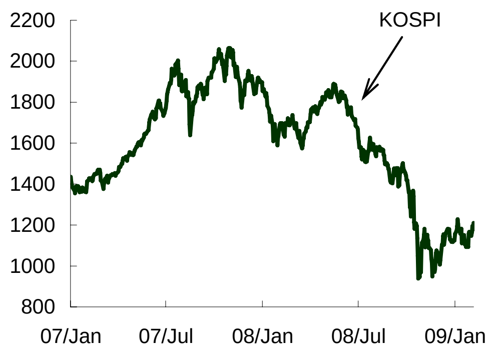
Source: Bank of Korea.

4. The third factor: outflow of funds from stock markets

The outflow of funds from stock markets is another factor behind the acceleration of the won's depreciation.

Amid the worsening financial crisis, overseas investors reduced risk assets and took refuge in safer and more liquid assets, causing the South Korean stock market to fall. The Korea Composite Stock Price Index (KOSPI) reached the 2,000-point range in October 2007, marking a record high; but plummeted in 2008, temporarily dipping below the 1,000-point level in October and November (**Chart 11**).

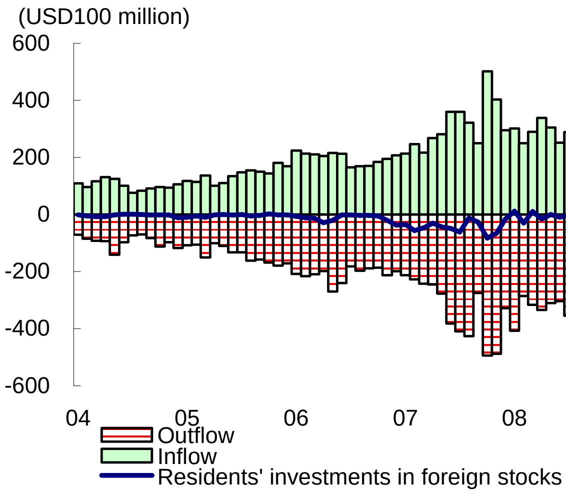
Chart 11: Trends in the Korea Composite Stock Price Index (KOSPI)



Source: Datastream.

According to balance of payments statistics, the inflow of foreign investors' funds into Korean stocks in 2008 was USD309.3 billion, whereas the outflow during the same period was USD350.5 billion, exceeding the inflow (**Chart 12**); the result was a net outflow of USD41.2 billion. Even after subtracting the USD6.3 billion that residents repatriated from their investments in overseas stocks during the same period, the net outflow in stock investment was USD34.9 billion.

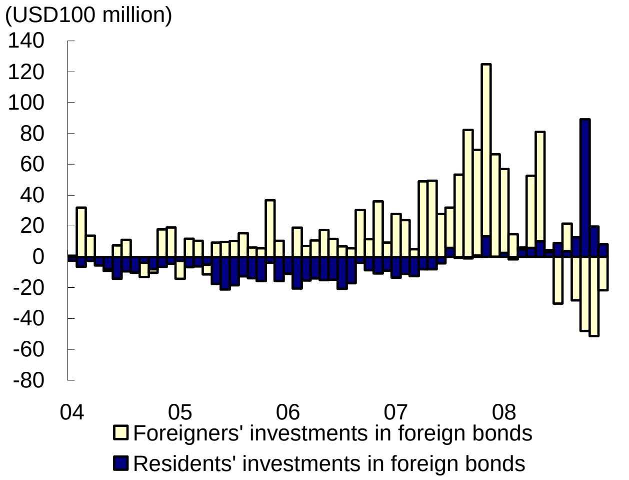
Chart 12: Inflow/outflow in stock investment



Source: Bank of Korea.

On the other hand, foreigners' investment in bonds in 2008 showed a net inflow of USD2.8 billion (**Chart 13**), while the residents' repatriation of their investments in foreign bonds was USD16.7 billion. The cumulative balance of investments in bonds in 2008 was a net inflow of USD19.5 billion, but fell short of the aforementioned net outflow in stock investment. For securities investments as a whole, the movement of funds was a net outflow (**Chart 7**).

Chart 13: Inflow/outflow in bond investment



Source: Bank of Korea

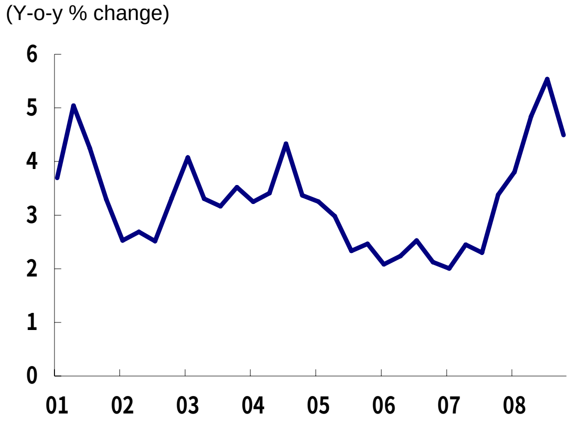
5. The fourth factor: acceleration of inflation and deterioration of real economy

Given that inflation lowers the value of a currency, the fact that inflation accelerated in 2008 most likely exerted some downward pressure on the won.

The rate of increase in consumer prices remained stable until September 2007 at about +2% year-on-year, but it has been moving above +3% since October 2007 (**Chart 14**). South Korea's monetary policy is based on an inflation target framework; and the inflation target is set so that the 3-year average of consumer inflation for 2007 – 2009 will be in the +2.5% to +3.5% range. In November 2007, consumer inflation reached +3.6% year-on-year, exceeding the upper limit of the target range. Since June 2008, the rate has been in the +5% range. Besides overall consumer price inflation, core inflation (excluding agriculture and oil products) has also surged since June 2008, exceeding +4% year-on-year.

As can be seen from the fact that the balance of payments turned negative amid soaring raw materials costs, price levels in South Korea are susceptible to rises in energy and food import prices, as the nation depends on imports for most of its crude oil and much of its food supplies. Thus, as raw materials costs skyrocketed in the first half of 2008, consumer inflation accelerated.

Chart 14: Rate of increase in consumer prices



Source: Korea National Statistical Office.

However, raw materials prices dropped in the second half of 2008, amid the rapidly slowing world economy. This also led to a drop in consumer price inflation toward the end of 2008. As the economic slump worsened in the latter half of 2008, worries about inflation subsided, and instead, market participants began to pay more attention to the deterioration of the real economy, such as drops in exports and production; slowdowns in capital investments and employment; and corporate failures.

6. Government policy measures to prop up the weaker won; exchange rate temporarily stabilized

As mentioned at the beginning of this paper, the South Korean government initially tolerated a weaker won. However, as the won's drop accelerated, the government changed its stance and intervened in the market in a bid to halt the further fall of its currency. The nation's foreign reserves began to shrink after reaching a peak in March 2008 at USD264.2 billion. In the month of July 2008 alone – when the Ministry of Strategy and Finance and the Bank of Korea held a joint news conference to declare that they would actively intervene in the market – Korea's foreign reserves decreased by USD10.6 billion. However, the intervention failed to stop the depreciation of the won since the plunge was due to an acute dollar liquidity crunch stemming from the global financial crisis and the fact that currency speculation was not the main cause of the won's depreciation.

In October 2008, the South Korean government changed its policy to try to stabilize the won's exchange rates by easing the dollar liquidity crunch. In October, the government announced that the Bank of Korea would conduct currency swaps and competitive bidding; that the Export-Import Bank of Korea, a government-affiliated entity, would inject dollar liquidity into the market; and that the government would guarantee banks' external borrowings for up to USD100 billion. On October 30, 2008, the Bank of Korea reached a currency swap agreement with the U.S. Federal Reserve to secure the source of the planned dollar liquidity injection.[6] The agreement is effective for six months through April 30, 2009[7]. With this, the Bank of Korea has secured a dollar-won swap facility with the Federal Reserve for up to USD30 billion, of which the Bank of Korea has used USD11 billion to lend dollar-denominated funds to banks through open bidding.

Furthermore, on December 12, 2008, South Korea announced that the bilateral currency swap facilities established with Japan and China based on the Chiang Mai Initiative, would be expanded: with Japan, as a temporary measure through April 30, 2009, the yen-won swap facility worth USD3 billion was increased to USD20 billion. Together with the previous dollar-won swap facility of USD10 billion, the facility was expanded to a total of USD30 billion. As for the swap facility with China, the yuan-won swap facility worth USD4 billion was expanded to USD30 billion as a temporary measure to last for three years.

Moreover, to address the deterioration of the real economy, the Bank of Korea has conducted a host of measures, including a series of large interest rate cuts, and injection of more liquidity through repurchase agreements. The government has also announced plans to implement various measures, such as tax cuts; easing of regulations; purchase of unsold houses from construction and real-estate companies; support for small and medium sized companies and low-income population; and public-works projects, such as expansion of infrastructure in different localities, improving flood-control facilities at four major rivers, as well as building and maintaining canals. The government has also announced a plan to establish a KRW20-trillion fund – to be co-funded by the Bank of Korea, the government, and the government-affiliated Korea Development Bank – in order to inject capital into banks, in case the deterioration of the real economy leads to capital erosion at financial institutions.

[6] The US Federal Reserve also executed similar currency swap agreements with Brazil, Mexico, and Singapore at the same time.

[7] The Bank of Korea and US Federal Reserve have extended their temporary reciprocal currency arrangements until October 30, 2009.

These multilayered plans by the South Korean authorities, as well as the announcements by the U.S. authorities and the international community of a host of measures to address the global financial crisis, have calmed the financial markets somewhat both in South Korea and overseas. The won-dollar exchange rate moved around 1,300 won/dollar toward the end of 2008.

Chart 15: Major policy measures to address the financial crisis and economic slowdown

Monetary policy	Interest rate cut	(Oct 9) Base rate 5.25 -> 5.00% (Oct 27) Base rate 5.00 -> 4.25% (Nov 7) Base rate 4.25 -> 4.00% (Dec 11) Base rate 4.00 -> 3.00% (Jan 9) Base rate 3.00 -> 2.50%
	Others	Foreign currency support Provide banks with foreign exchange through currency swaps and Export-Import Bank of Korea Guarantee banks' external borrowings (USD100 billion, 3 years) Currency swap agreement with the Fed (USD30 billion, through April 2009) Expand currency swap facilities with Japan/China (up to USD30 billion worth with each nation)
		Won liquidity support Expand target securities for open market operation (central bank repo) (Government bonds + bank debenture/some public company bonds) Interest on financial institutions' reserve deposits (KRW500 billion)
		Capital injection Inject additional capital into 3 government-affiliated financial institutions (KRW1 trillion in total) Establish a fund to recapitalize financial institutions (KRW20 trillion)
Fiscal policy	(Oct 21) Construction industry support (KRW8 trillion) - Buy land for construction - Buy unsold houses in rural areas - Provide small and medium construction companies with credit guarantee	
	(Nov 3) Measures to boost economy, KRW14 trillion (revise FY2009 budget) - Invest in infrastructure (KRW4.6 trillion) - Provide cashflow suppport to SMEs, family businesses, and agriculture/fisheries workers (KRW3.4 trillion) - Provide support for employment and starting new business (KRW0.3 trillion) - Support for low-income households (KRW1 trillion) - Support for local governments (KRW1.1 trillion) - Expand spending for public company projects (KRW1 trillion) - Cut taxes (KRW3 trillion)	
	5-year plan for revitalizing local economies (KRW100 trillion) (Sep 10) 5+2 wide-area economic zone revitalization strategy (KRW56 trillion) - For each economic zone -- capital, Chungcheong, Honam, Daegyeong, Tonnam, Kangwon-do, Jeju-do -- designate strategic industries, and globalize/advance them (KRW1.9 trillion) - In each economic zone, establish/strengthen hub universities, and nurture human resources - Promote 30 projects to expand infrastructure for transportation, distribution, and tourism. (Dec 16) Projects for revitalizing local economies (KRW42 trillion) - Promote relocation of companies to regional areas by providing preferential taxes and subsidies - Enhance flood-control facilities and canals for the four rivers of Han, Nakdong, Geum, and Yeongsan - Improve standards in health care, education, and culture	

Source: Based upon media coverage and press releases by the South Korean government and Bank of Korea.

7. The future direction of the won exchange rate

Of the major factors for the won's depreciation in 2008 mentioned in this paper, note that South Korea's current account is improving. On a monthly basis, South Korea recorded a record-high surplus of USD4.9 billion in October (**Chart 2**). The balance of goods returned to positive territory in the same month, reaching USD2.79 billion (in September, it marked a deficit of USD0.89 billion). Even though the balance of services fell into a deficit again in October, it has shrunk significantly to USD0.05 billion (from USD1.23 billion in September). The balance of income maintained a surplus of USD1.41 billion (also a surplus of USD0.79 billion in September). The transfer balance turned positive to USD0.77 billion (it recorded a deficit of USD0.02 billion in September). While all the foregoing items contributed to the improvement of the current account, the balance of goods and the balance of services were the most significant drivers, having improved by USD3.67 billion and USD1.18 billion, respectively, from the previous month.

The balance of goods improved because a drop in raw materials prices lowered imports by 9.4%, while exports remained flat from the previous month. The main reason for the improvement in the balance of services was the fact that the balance of travel turned to a surplus of USD0.5 billion for the first time in 7 years and 6 months. Given the huge drop of the won, travel receipts soared 66.7% while travel payments declined 30.6% from the previous month.

The current account will most likely continue to improve. While the balance of goods should be watched closely, as exports may plunge amid the worsening global financial crisis; it is unlikely that the balance of goods will deteriorate significantly again, given that the value of imports will probably continue to decline due to lower raw material costs and sluggish domestic demand. Services, on the other hand, will probably remain more or less in balance, mainly because of a drop in the number of Korean travelers due to a weaker won. The Bank of Korea forecasts the current account to turn from a deficit of USD4.5 billion in 2008 to a surplus of USD22.0 billion in 2009.

Lately, the stock market has become somewhat more stable, as has the exchange rate. The benchmark KOSPI index dipped below 1,000 at one point, but regained the 1,100 level in December. According to the Korean bourse, foreign investors turned net buyers for USD0.56 billion in December 2008 (in November, they were net sellers for USD1.55 billion through the 19th). That said, capital outflows from the stock market will most likely persist, as investors continue to find ways to reduce their risk assets, given the limited upsides on stock prices amid the worsening real economy and corporate performance.

External debt requires continued vigilance. Even though the recent rise of external debt is not attributed to the need to finance current account deficits, as stated earlier, demand for dollar-denominated funds will most likely continue unabated as loans become due and financial institutions scramble for dollars. While the Korean authorities' measures for supplying dollar liquidity, including the currency swap agreements with the United States, Japan, and China, will to some extent help stabilize supply and demand for the US currency, dollar liquidity will probably remain tight, and the upside on the won will be limited. With South Korea's foreign reserves expected to shrink given the need to repay external debt, the authorities will probably have difficulties to keep intervening in the market to prop up the won. Even though the won will likely remain unstable in the first half of 2009, the won exchange rate should gradually improve toward the end of 2009, as the current account improves, the global credit crunch eases, and more dollars become available for repaying external debt.

As for the real economy, while inflation has peaked and is easing as stated earlier, companies have been cutting down on output, capital investment, and labor costs since the fall of 2008, amid slowing exports and domestic consumption. As such, South Korea will most likely join the advanced nations and enter a recession. Going forward, the risk of capital flight may increase, should the global financial crisis and the world economy worsen to unexpected degrees, and should South Korea's real economy shrink, fanning further credit uncertainties. Avoiding such a scenario will depend on the international community's efforts to tackle the crisis, as well as the South Korean authorities' policy response. The South Korean government's ability to address the financial crisis will continue to be tested.

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