

# The Global Financial Crisis and the Challenges of the Korean Economy

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This paper analyzes why the U.S. financial crisis evolved into a global financial crisis, and why the Great Moderation led to the Great Recession. Then, the U.S. policy responses to the crisis are discussed and are compared with the policy measures prescribed by the IMF on the Korean economy immediately after the 1997 Korean Currency and Banking Crisis. The paper also deals with the sovereign debt crises of the Euro zone to analyze the needs for macro-prudential regulation and supervision. The main focus of this paper, however, is to examine the impacts of the global financial crisis on the Korean economy, to evaluate the macro-policy measures meant to ride out the crisis, and to present the major challenges that Korea will face in the future. Given that internal and external risk factors abound, along with persistent uncertainties in the Korean economy, the policies on securing price, financial, exchange rate, and fiscal stability as well as stable economic growth are recommended.

*Keywords:* Global financial crisis, Great Recession, Sovereign debt crisis, Macro-prudential regulation, Macro-policy measures

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## I. Introduction

Given the unexpected outbreak and catastrophic impact of the Global Financial Crisis on the world economy, the importance of analyzing its causes and effects is incontrovertible. Moreover, it is essential to discuss

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the challenges brought about by the crisis on small open economies such as that of South Korea. The discussion of this paper is initiated with a brief look on the causes of the Global Financial Crisis, its impacts on the real economy, and its rapid spread to the global economy. I also cover the U.S. government's policy responses to the crisis and compare these with those of Korea. Subsequently, I analyze the impacts of the Global Financial Crisis on the Korean economy and Korea's policy responses to it. Then I turn to the current issues of Europe's sovereign debt crises, specifically focusing on the question, "Why do European countries still suffer from high rates of unemployment and sovereign debt problem?" In fact, numerous concerns have been raised as to whether or not the sovereign debt problem of the European Union might lead to another global banking and financial crisis, thereby causing a double dip in the world economy. Finally, after a brief discussion on the need for a macroprudential approach to financial regulations and supervision on the global economy, the paper covers major challenges that the Korean economy is currently facing in the midst of incremental uncertainty of the world economy.

## **II. The Causes and Impacts of the U.S. Financial Crisis and Policy Response**

### *A. The Causes and Impacts of the U.S. Financial Crisis*

One of the most distinctive features of the recent financial crisis is its origin and the global economic situation in which it took place. The crisis started in the U.S., the world's economic superpower, not in an emerging economy, and it happened amidst China's emergence as a new economic power, thus yielding significant impact on the restructuring of the global economy. The U.S. financial crisis was caused by both government and market failure.<sup>1</sup> Specifically, the U.S. government took expansionary monetary policies in order to boost the national economy, which had been undergoing recession after the collapse of IT bubbles in the early 2000s. The expansionary monetary policies, however, did not take effect on the inflation rate over an extended period of time, mainly due to importations of cheap manufacturing goods from China and India. Nonetheless, the loosened money contributed to the formation of bubbles in real estates and housing markets. Moreover, the inflow of foreign capital resulting

<sup>1</sup> See Stiglitz (2010).

from a global imbalance further raised the money supply in the U.S.

Both the Clinton and Bush administrations implemented policies that provided incentives to personal housing ownership; in turn, these led to the proliferation of subprime loans granted to low-credit and low-income families.<sup>2</sup> However, a hike in the interest rate, which was initially intended to stabilize the economy, caused a housing bubble burst, resulting in households that were unable to pay back their debts. Wall Street greed, together with the multi-stage securitization of housing loans as collaterals, and a bank run in the shadow banking system also contributed to the financial crisis. Furthermore, the abuse of derivatives increased the systemic risk of the shadow banking system. As the price of housing fell, insolvencies occurred in complex mortgage-backed securities, and bank runs took place in the shadow banking system. The U.S. government's failure in supervising and regulating the financial market, instruments, and institutions also contributed to the Global Financial Crisis.<sup>3</sup>

The financial crisis subsequently spread to the real sector, causing a great recession. With the spread of the crisis, financial institutions went insolvent, and liquidity vanished in the market, undermining financial transactions and business activities. Above all, investment activity fell dramatically after the crisis.

Moreover, increased unemployment and a drastic drop in housing prices hurt consumption, pushing the economy into a recession. Globally, international trade contracted faster than the world economy, worsening the recession further. To add fuel to the flame, because financial markets and institutions were closely interconnected, and a great portion of bad loans incurred by the U.S. was held by financial institutions in other countries, the country's financial crisis spread quickly to other regions.

Critically affected by this U.S.-led crisis, the European economy was also driven to this economic catastrophe as the inherent problems of financial integration materialized.<sup>4</sup> The essential cause of Europe's economic crisis was its hasty introduction of a single currency. The European Monetary Union lacked the basic requirements for monetary integration, let alone fiscal integration. The Euro zone faced economic difficulties as the underlying problems of the currency integration, such as excessive sovereign debts and fiscal deficits of Southern European countries, surfaced. Now, it is the world's concern whether or not European countries

<sup>2</sup> See Krugman (2009).

<sup>3</sup> See Hall (2010).

<sup>4</sup> See Mishkin (2011).

can overcome the current challenges of resolving fiscal deficits and sovereign debt problems, thereby preserving the Euro zone.

### *B. Policy Responses of the U.S. Government*

Prior to the Global Financial Crisis, the U.S. government took restrictive monetary policies and raised the federal fund rates by up to 5.25 percent in the face of a rising inflation. The hike in the rates of the government policy loan eventually brought about the collapse of housing bubbles. The prices of mortgage-backed securities (MBS), which issued housing as collateral, deteriorated with the collapse of housing bubbles, because the housing prices fell short of par value of the MBS. Moreover, a fall in the value of MBS engendered bank runs in the shadow banking system. Investment banks — major players in capital markets who usually secure funds to invest on MBS through repo markets — either asked more haircuts for a roll-over or withdrew their money from the market as the market value of MBS fell. Bank runs in the shadow banking system led to a credit crunch, and eventually to a fire-sale of assets.

In fact, the financial crisis spread to the real sector within a short period of time. Most importantly, increased uncertainties in the future as well as the occurrence of a liquidity crunch led investments to fall. Consumers also cut back on their spending in the face of a decrease in their wealth. During a worldwide economic crisis (e.g., the Great Depression), international trade usually shrinks more rapidly than the extent of cutbacks in GDP, and thus, the global economy rapidly enters into a great recession. As a result of the intricately interconnected nature of the global financial market, the U.S. financial crisis was prone to rapidly expand on a global level, hence leading to a worldwide recession. In an attempt to offset the fall in investments, consumption, and exports as well as to revitalize the economy, the U.S. government implemented expansionary monetary and fiscal policies.

The U.S. government implemented both conventional and unconventional monetary and credit policies. The Federal Reserve System (Fed), which is the central bank of the U.S., introduced a monetary easing policy of reducing federal fund rates from 5.25 percent in September 2007 to 0-0.25 percent in December 2008. The Fed also expanded the money supply by granting loans to banks and financial institutions through discount windows in order to facilitate the financial market. Discount windows were once only limited to banks; however, they became available to primary dealers of the capital market. In addition, the Fed also widened

the types of securities that can be used as collateral. The Fed accepted commercial papers, mortgage bonds, and asset-backed securities as collateral. The Fed bought vast amounts of MBS to provide immediate liquidity to the construction market, and also lowered mortgage rates to stimulate the housing market.

Furthermore, the Fed supplied dollars to the countries that lacked dollar liquidity by opening swap lines among their central banks. Given that it takes an extended period of time for the drop in short-term interest rates to have impacts on long-term interest rates, the Fed also took quantitative easing policies, directly buying mid- and long-term government bonds. Such policies engendered ambiguity and confusion by blurring the line between monetary and fiscal policies. In fact, a disagreement exists on how effective such quantitative easing policies can actually be in stimulating the economy. As a result of a liquidity expansion through asset purchases, the monetary base was expanded and the size of assets on the Fed's balance sheet increased substantially. With the intention of changing the market sentiment on interest rates and inflation, the Fed has announced that the current federal fund rates will be maintained for an extended period of time after completing two rounds of quantitative easing.

Meanwhile, the U.S. government also took expansionary fiscal policies, increasing fiscal expenditures and reducing tax rates. The U.S. fiscal deficits for 2009 and 2010 reached almost 9 percent of its GDP. Two thirds of the increase in the fiscal deficit accounts for increased fiscal expenditures, and the remaining one third, for reduction in tax. More often than not, bold fiscal stimulus is needed when consumption, investment, and exports are hit by a financial crisis, and when the economy is caught in a liquidity trap. Thus, the U.S. government won permission from Congress to establish a stimulus package, which amounted to \$787 billion or more than 5 percent of the GDP. The U.S. government spent one third of it on tax cuts and two thirds on expanding fiscal spending. In fact, when it comes to fiscal spending, the size and scale are significant factors along with the specific composition. In this case, majority of the fiscal funds were spent on education, expanding health insurance, and developing renewable energy sources.

The U.S. government and the Fed made arrangements to restructure some financial institutions: the Fed arranged the M&A between JP Morgan Chase and Bear Stearns, and the takeover of Merrill Lynch by the Bank of America. The Fed promoted structural reforms by providing liquidities, making loans to the merger, and guaranteeing the value of assets of the

merged. The U.S. government also received Congress' permission to raise bailout funds worth \$700 billion through the Troubled Asset Relief Program. The original purpose of the fund was to deal with troubled assets; however, as a result of difficulties in calculating asset prices, the fund was rather utilized to recapitalize the top-ten ranking banks. As a way of coping with bad assets, public-private joint investment funds were created by the government.

In order to prevent a moral hazard problem, the U.S. government allowed Lehman Brothers to collapse on its own. The government, however, did not take any drastic measures to reform the financial and industrial sectors. Fannie May and Freddie Mac, which are similar to Korea's Korean Housing Finance Corporation, are still suffering from an enormous amount of insolvent debts, and AIG still remains an ailing insurance giant. What is worse, the U.S. central bank still possesses a great share of high risk bonds it bought during the financial crisis. The most critical problem lies in the fact that the U.S. government continues to take the same economic policies that initially caused the Global Financial Crisis.

The U.S. government's basic stance concerning the crisis is that financial restructuring must be led by the private sector, all the while avoiding nationalization. Some economists argue that a temporary nationalization is inevitable in effectively restructuring the banks that had experienced a virtual capital write-off. They believe that they must be privatized upon the completion of a restructuring program. Nevertheless, such argument is not widely accepted because nationalization is often viewed as a notion that goes against capitalism.

### *C. Problems of the U.S. Economy*

As a way of effectively tackling the current crisis and preventing it from spreading to other countries, it is imperative that international cooperation must exist among the U.S., Europe, and East Asia. However, the problem is that even the national and regional levels of cooperation have not yet taken place, let alone at the international level. The absence of a global leadership aggravates the situation. The U.S. and Europe, which should take the lead in international coordination, have lost market confidence. In fact, they have been even criticized for their roles in raising risks in the world economy.

The U.S. Congress also displayed a political brinkmanship when the debt ceiling was discussed. Both the U.S. and the European Union are suffering from sovereign debt problems and the absence of an effective

political leadership. Unemployment rates in the U.S. remain at around 9 percent; and the debt of the U.S. government came close to its GDP level, three years after the collapse of Lehman Brothers. In early August of 2011, one of the world's leading credit rating agencies, Standard & Poor's (S&P), downgraded the country's top-notch AAA rating to AA+. The downgrade triggered a fluctuation in the global stock markets and also raised uncertainties within the international financial market. The U.S. Congress was only able to reach an agreement on raising the debt ceiling only at the last minute. The political brinkmanship raises a question on whether the U.S. has the capability to deal with its own economic problems, let alone lead the global economy. S&P cited the prolonged high rate of unemployment and large-scale government debt, as well as the lack of political leadership as the major reasons for downgrading the rating.

Fiscal deficit reduction requires cuts in fiscal spending and increases in new revenues. However, the bill, which was meant to raise the federal debt ceiling, did not include specific ways of raising new revenues. Congress agreed to cut the fiscal deficit only through the control of government fiscal spending. Effectiveness of the fiscal policy is doubted when there is no room for a tax increase. In addition, without agreements on pension and health care reforms, there is a limit to reducing the fiscal expenditure.

The global financial market is directly affected by sentiments about U.S. leadership and the prospects of sovereign debt problems of the Euro zone. Given that the American consumer confidence index has reached its all-time low in 30 years, the global stock market fluctuated and stock prices plummeted. Three years have already passed since the Global Financial Crisis was triggered by the collapse of Lehman Brothers. Nonetheless, the stock market has yet to recover to its pre-crisis level. The Federal Reserve Board has announced that it will keep federal fund rates at zero for the next two years in order to boost the economy. The quantitative easing policies, previously implemented twice, would not be renewed, but the Fed will continue the zero interest rates policy in order to boost investment and consumption.

The zero interest policy will undoubtedly increase the supply of the dollar; however, the expansionary monetary policy of the U.S. will undermine the dollar's value and its status as a vehicle currency. It can also raise the volatility of foreign exchange rates in emerging markets. Thus, it may be a key factor that can trigger further uncertainties in the global economy.

The U.S. is dramatically losing its ground in the global economy, and its growth continues to slow down in recent years. In these circumstances, the challenged dollar's status could cause turmoil in the global financial order, and in the end, the world's leading currencies (including the U.S. dollar, the Euro, and the Yuan) are expected to play a major role as global reserve assets. However, there will be no single global reserve asset to replace the U.S. dollar at this point: the Euro zone crisis undermines the status of the Euro, and China strictly controls the inflow and outflow of capital. Nonetheless, as the dollar's value continues to fall, many countries would begin to raise a question on the dollar's role as the foreign exchange reserves. To address this issue, Dr. Eichengreen has suggested issuing a global-GDP-linked bond as a global reserve asset.<sup>5</sup>

### **III. Impacts of the Global Financial Crisis on the Korean Economy and Its Policy Response**

#### *A. Impacts of the Global Financial Crisis on the Korean Economy*

The Global Financial Crisis has had a major impact on the Korean economy as well.<sup>6</sup> Foreign investors thought that the Korean economy might be very vulnerable to the Global Financial Crisis, citing three main reasons. First, they mentioned the high loan-to-deposit ratios, which once reached a staggering 125 percent. Such high ratios imply that some portions of loans had to be financed through capital markets and abroad. They also thought that if the problems similar to those that occurred in the U.S. were to arise in the capital market, Korean banks might find themselves having trouble financing necessary funds. In fact, in Korea, a certificate of deposit — a major tool in financing from the capital market — is often considered similar to short-term deposits.

Second, they mentioned the large amount of foreign debts and the high ratio of short-term debt to GDP as the weaknesses of the Korean economy. Interest differentials and continuing appreciation of the Korean won prior to the global crisis, in fact, were contributing factors in the accumulation of foreign debt. However, towards the end of 2007, Korea was a net creditor country, and had foreign reserves amounting to US\$ 262.2 billion. Foreign investments in Korea, however, exceeded Korea's overseas investment by US\$ 183.3 billion as of 2007, as foreigners made

<sup>5</sup> See Eichengreen (2011).

<sup>6</sup> See Kim and Rhee (2009).



large investments in Korea's capital market. Such foreign investments are not considered foreign debts, but rather as funds that are always prepared to flow out in the event of a global financial turmoil.

Finally, foreign investors also cited the deterioration of the current account balance in the second half of 2008 as a fundamental weakness of the Korean economy. Given that the Korean capital market was widely open, and there was no restriction on the flow of foreign capital, a large amount of foreign capital left the Korean capital market in the midst of the global credit crunch. Outflow of foreign capital had direct impacts on the foreign exchange market. Exchange rates exceeded 1500 twice, pushing Korea almost on the verge of a currency crisis. Exchange rates, however, were stabilized with the currency swap arrangements made with the U.S. Furthermore, a great deal of depreciation in the Korean won contributed to the early recovery of Korean exports assisting in the revitalization of the Korean economy.

Due to the Global Financial Crisis, the growth rate of the Korean economy also suffered, falling from 2.3 percent in 2008 to 0.2 percent in 2009. In the face of a recession, the Korean government took expansionary monetary and fiscal policies; furthermore, the Bank of Korea (BOK) reduced call rates from 5.25 percent to 2 percent in the short run. In addition, the Korean government also increased fiscal expenditures and cut tax rates. In 2008, Korea's fiscal deficits reached 5.8 percent of the GDP. The increase in fiscal expenditures accounts for two thirds of the increased deficits, and the tax cuts for the remaining one third. As a result of the aggressive fiscal and monetary policies, along with the dropping value of the Korean won, the Korean economy began to recover rapidly, and the growth rate of the economy reached 6 percent in 2010.

### *B. Korea's Policy Response*

After the fall of Lehman Brothers, Korean monetary authorities, based on a lesson learned from the 1997 crisis, cut policy rates drastically and injected massive liquidity into the financial market. The interest rates were lowered over a five-month period from 5.25 percent in October 2008 to about 2 percent in February 2009. Although Korea pulled itself out of the crisis and posted a 6 percent growth rate by 2010, the interest rate stood at 3.25 percent as of October 2011, with the real interest rate maintaining a negative value for several months.

Furthermore, the aggressive implementation of expansionary monetary policies prevented the credit crunch and stabilized the domestic financial

markets. With an improved cash flow in both the won and the dollar, the real economy began to stabilize. Comparing the level of monetary easing policies of Korea with those of major advanced countries (*e.g.*, U.S., Euro zone, the U.K., Japan, and Taiwan) using real interest rates adjusted to the inflationary expectation, Korea ranks the lowest in the short-term real interest rates, and the second lowest after the U.K. in the long-term real interest rates. This ranking means that Korea implemented more extensive monetary easing policies than the U.S. or the Euro zone. Additionally, this implies that an exit strategy, which should normalize interest rates faster, would have been a more appropriate option for Korea.

Even though the BOK raised call rates in the face of inflationary concerns, it had kept the real interest rates below zero for an extended period of time. In doing so, it missed the proper exit timing of its monetary policies. Prolonged low interest rate policies contributed to raising the inflationary expectations and increasing household debts, thereby undermining the financial stability. However, financial policies also made significant contributions in easing instability in the financial market. Banning the short sale of stocks and establishing a joint stock market stabilization fund also helped alleviate wild fluctuation and volatility in the stock market, which were initially caused by the sudden outflow of foreign capital. The creation of bond market stabilization funds and tax benefits for corporate bonds also facilitated the improvements in the SMEs' cash flow amid the credit crunch. The gap between government and corporate bonds widened disproportionately in the beginning, but narrowed down later on; in turn, this contributed to the stability of the bond market and corporate financing.

In the foreign exchange sector, various policy measures were taken, such as signing currency swap agreements with the U.S., China, and Japan; strengthening prudential regulation and supervision on foreign reserves; and introducing devices to ease volatility in capital flows. Bearing in mind the lesson learned from the 1997 financial crisis, the Korean government set up contingency plans and reacted in an orderly manner to prevent the outbreak of another currency crisis. A currency swap with the U.S. also contributed to easing the foreign exchange instability generated by the capital outflow. Nonetheless, the government's intervention in foreign exchange markets was proven to be marginally effective. Its high exchange rate policies in the beginning of 2008 caused market instability and drove market sentiments to cause a further depreciation of the won. Ironically, however, the drastic increase in the exchange rates

boosted Korea's exports, consequently helping the economy to take a rather rapid recovery from the recession.

Faced with the recent global crisis, Korea has also employed expansionary fiscal policies. The ratios of Korea's fiscal expansion to GDP were 1.1 percent in 2008, 3.7 percent in 2009, and 1.2 percent in 2010, hovering over the average of the G20 countries. Korea's fiscal policy was more focused on expanding fiscal spending than on providing tax benefits. As it is generally known, spending is more effective than tax benefits in the short term. Thus, it was a valid approach for Korea to opt for a spending expansion during the crisis.

Despite the effects mentioned above, Korea's fiscal policy responses were timely. The package of measures against high oil prices, which focused on giving tax benefits and helping working families, had proven helpful in preventing a dramatic downturn. Revised and supplementary budgets were drawn up, and the front-loading of fiscal spending was encouraged to maximize the effects of fiscal expansion. The government's fiscal expansion can be summed up as an investment expansion to build future growth engines, including investing in social overhead capital (SOC) and green growth, as well as to increase transfer payments for the low-income class, SMEs, and the self-employed. Apart from fiscal spending, investments in public enterprises were boosted together with the government's investment expansion.

Most fiscal expansion policies were temporary, and tax benefits also took the form of temporary tax exemptions. Income and corporate tax cuts (provided to stimulate the economy) as well as fuel tax returns and subsidies (introduced to cope with high oil prices) played significant roles in keeping the domestic demand from falling. Tax cuts provided to the auto industry also proved to be effective in sustaining the domestic demand. Meanwhile, although the government attempted to lower the top income and corporate tax rates, cuts were postponed to secure the budget to meet the increased welfare demand and to achieve fiscal balance by 2013.

Overall, the aggressive fiscal policy was very effective for economic recovery after the crisis. However, it turned out to have worsened the country's fiscal health in the long run: Korea's national debt increased to 100 trillion won over the three years from 299.2 trillion won in 2007 to 392.8 trillion won in 2010. Its debt-to-GDP ratio rose from 30.7 percent in 2007 to 33.5 percent in 2010. In fact, the average debt-to-GDP ratio of the G20 countries in 2011 is expected to be 77.3 percent. This represents a 16.7 percent increase from the end of 2007, thus indicating

that Korea is faring relatively well. Still, the implementation of strong measures in order to control government debt is needed, considering the following facts: Korea has a great amount of debt that is not officially calculated as national debt, but, in effect, can be counted as one. The growing proportion of the aging population of Korea can possibly lead to a greater medical welfare demand and less growth potential.

Meanwhile, the Korean government raised funds for financial and industrial restructuring, such as bank recapitalization funds, financial stability funds, and corporate restructuring funds. However, it did not carry out bold reforms because of the possibility that implementing major structural reforms during a continued recession could undermine economic recovery. This means that despite the increased insolvency of savings banks, no preemptive action policies were taken to restructure the sector. This inaction is due to the concern that doing so might cause further harm to the already unstable financial market, along with the anticipation that the banks can survive with the help of an early economic recovery. As a result of the failure in restructuring the savings banks at the right time, their insolvency aggravated and caused some of them to shut down in late 2011.

A corporate structural reform is required to prevent the financial crisis from spreading to the real economy and the damage from spilling back over to the financial sector. The faltering shipbuilding and construction industries, in particular, were in desperate need of structural reforms. However, restructuring took place only in a passive manner because creditor banks, who were already burdened with putting aside provisions for bad debts, were hesitant to blacklist such industries. Given that the recovery of the economy was its utmost priority, the Korean government did not do much to restructure the financial and industrial sectors. Trade-offs between an early recovery of economy and achievements in structural reforms exist. Consequently, timely reforms in savings banks, construction, and in mid-sized shop-building sectors were neglected.

### *C. Differences in Policy Prescription between the U.S. and Korea*

The macroeconomic policies implemented by the U.S. government are quite opposite to the policies prescribed by the IMF for Korea in reaction to the 1997 Korean Currency and Banking Crisis. Contrary to the expansionary monetary and fiscal policies, the IMF forced Korea to take restrictive monetary and fiscal policies. Immediately after the 1997 crisis, the IMF asked the BOK to raise its interest rates twofold.<sup>7</sup>

Granted, Korea's crisis was different because it was suffering from banking and currency crises at that time, its high interest rate policy, however, was not effective in stopping the capital outflow. The IMF also forced Korea to drastically reform the nation's financial and industrial sectors from the bottom of the economic cycle.

Moreover, the IMF advised Korea to temporally nationalize the troubled financial institutions whenever necessary, whereas the U.S. sought to avoid nationalization as much as possible. Of course, the U.S. is in a different position because, unlike Korea, its currency is used as a vehicle currency. Yet, even with that in mind, the fact that the U.S. took the exact opposite approach from Korea is worth noting. Nevertheless, the reason Korea could overcome the current global crisis rather quickly was partly due to the structural reform that it implemented during the 1997 economic crisis. The Korean government spent a great amount of public funds on restructuring the financial and industrial sector.

Although U.S. policies have kept its economy from a complete breakdown, it is now facing another perplexing issue: How is it going to handle the side effects and negative consequences stemming from the policies? In the coming days, the Fed will have to normalize assets and liabilities that have surged so far because of the liquidity supplies and bond purchases. Meanwhile, there is another critical issue looming over the country: How will the U.S. achieve fiscal balance and manage government debts that now amount to the level of its GDP.

#### **IV. Sovereign Debt Crises of Europe and Policy Options**

##### *A. Problems of the Euro Zone*

The economic crisis of 2011 three years after the collapse of Lehman Brothers differs from the one in 2008 triggered by the U.S. subprime mortgage loans. This time, the major advanced countries are faced with sovereign debt problems as their fiscal deficits accumulated through the global financial turmoil; specifically, the crisis of 2011 can be defined as a sovereign debts crisis. Thus far, preventing the contagion effects and the sovereign debts crisis developing into a banking crisis have been the major focus of concern.

The problems faced by the Euro zone are more severe than those of the U.S. The economic problems of the Euro zone result from the follow-

<sup>7</sup> See Kim and Rhee (1998).

ing unstable elements that are inherent in the modern financial system: low capital to debt ratio of the banking sector, risk premium, and doubts on the safety of sovereign debt. In the past, sovereign debts were regarded as safe assets because they were mostly owned by the people of the issuing country. However, in the case of the Euro zone problem, given that a large portion of sovereign debts are owned by European banks, defaults on sovereign debts will surely impair the soundness of European banks. Furthermore, risk premium rises at an increasing rate with the worsening debts situation. With increasing risk premium, accumulation of debts will further hurt the ability of those countries to pay back their own debts. Due to the fact that banks maintain only a fraction of assets as capital, and major European banks own a large portion of the southern European countries' debts, defaults on the debts will have direct impacts on the solvency of some major European banks, thus leading to the European banking and financial system into turmoil.

For example, Greece is almost on the verge of declaring an economic moratorium, but the Euro zone members have yet to come up with any feasible solutions either to rescue the troubled members or to prevent the contagion of the crisis to other member countries, such as Italy and Spain. The repayment capability of Greece depends on whether or not it can contain its debt-to-GDP ratio to a certain manageable level in the long run. To that end, real interest rates need to be lower than the real growth rates. However, risk premium increased interest rates in some southern European countries, and these countries have also limits on boosting real growth rates. Meanwhile, the European banks' solvency is also poised on a risky situation, because they hold a large amount of sovereign bonds of southern European countries. Recently, major French banks' stock prices plummeted, reflecting such anxiety in the market. The French and German governments, which are relatively free from the European crisis, should take measures to improve the soundness of their banks through providing a public fund, if necessary.

It is crucial that the debt crisis in Greece be addressed boldly so that the crisis does not spread throughout Spain and Italy, Europe's fourth and third largest economy, respectively. The debt-to-GDP ratio of Greece has already reached 150 percent, and the risk premium on the Greece sovereign debts skyrocketed to an unmanageable level. The national debt of Greece should be restructured to reduce real burdens. Greece may learn from the debt restructuring experiences of Latin American countries in the 1980s. Moreover, the challenges in Spain and Italy are serious because interest rates of the bonds issued by these governments have

increased above 7 percent recently, far exceeding the nominal growth rates. If a debt crisis takes place in Spain and Italy, the Euro zone will hardly exist – the entire Euro zone will be swept off by the financial crisis because the European banks that hold these bonds would become insolvent.

### *B. Euro Zone Policy Options*

The Euro zone should first decide on whether or not to dissolve the union. The criteria for such decision must include a cost comparison of dissolving and rescuing the troubled country. If the Euro zone decides that preserving the monetary union is the better option, all the possible and necessary short- and long-term measures to achieve this goal requires implementation. At this point, the union has three policy options. The first is to continue in its present condition. In fact, it is more likely to retain current policies by providing sufficient liquidities to rollover the current sovereign debts and demanding debtor countries. Austere programs to reduce fiscal deficits and sovereign debts could continue. However, such policies do not facilitate an early economic recovery for debtor countries, nor effectively prevent the contagion of sovereign debt crisis to other European countries. This option may also aggravate the present uncertain situation. The Euro zone may not recover from the economic hardships over an extended period of time, similar to Japan for the past 20 years.

The second option is to execute more resolute actions to prevent the expected twin crises of sovereign debt and banking. Policies are necessary to restructure sovereign debts and recapitalize European banks that may suffer from capital losses due to increasing insolvencies of sovereign debts. The main objectives of such policies are to prevent the sovereign debt crisis from spreading to sound countries and prevent its further development into the banking and financial crisis. Larger haircuts on sovereign debts and the recapitalization of major European banks are required. The European Central Bank (ECB) and the European Financial Stability Facility (EFSF) should assume higher responsibilities in restructuring the financial sectors; it must, therefore, provide liquidities, grant loans, guarantee debts, and recapitalize insolvent banks. Though creditor countries can incur sacrifices, the second option is a feasible and meaningful short- and medium-term solution.

The third option is to move towards a fiscal union. As a first step, the European Union may issue Euro bonds to substitute for the sovereign

debts of troubled countries. If Euro bonds are introduced, single interest rates may then be applied to all participating countries. Thus, although this can benefit heavily indebted countries, but financially sound ones can incur higher costs. In other words, financially sound countries would heavily subsidize the indebted countries and share in the interest payments.

The problem with issuing Euro bonds lies in identifying which organization assumes the responsibility and in how much bonds are issued. An organization that determines the size of issuance and interest rates is required, similar to how the ECB is responsible for monetary and exchange rate policies in the Euro zone. For instance, as of August 19, 2011, the 10-year government bond yield for Greece and Portugal, which were under a financial crisis, increased to 15.7% and 10.1%, respectively. The ECB purchased Italian and Spanish bonds to stabilize the European sovereign debt market, and the yield on the 10-year bonds declined to 4.9% and 4.92%, respectively. In comparison, the yield on Germany bonds was approximately 2.1%.

Debt-burdened countries resolving their fiscal deficit problem by using Euro bonds still have further problems if they fail to restore their fiscal soundness. Of course, the European Monetary Union already set the rules on the general government budget deficits and the gross debt to be within 3% and 60% of the GDP, respectively. As such, fiscal soundness could be demanded. However, questions remain on how to manage countries (*e.g.*, Greece and Portugal) that fail to honor these criteria and drive their economies to the wall as well as on the necessary actions if these countries complacently believe that Euro bonds would solve all their economic problems. As such, it is inevitable to impose a certain condition on participating countries (*i.e.*, demanding fiscal soundness). The fact that Germany and France have a significant vote in the decision-making process similarly merits consideration. Thus, an organization with the capability to monitor and regulate the fiscal soundness of participating countries is necessary. This organization should have the authority to impose proper measures on countries that fail to honor the criteria.

Meanwhile, such an organization, tentatively named the European Fiscal Commission, can assist in more effective issuance of Euro bonds. The commission can serve as the counterpart of the ECB or the IMF in the Euro zone. In the end, the introduction of Euro bonds means that all the member countries would borrow credit from Germany or France; this would mean, however that these two fiscally sound countries would bear the heaviest burdens. However, decisions that are favorable to Germany



are not guaranteed to be the same for all the Euro zone states. Germany sees a balance of payment surplus in the Euro zone, but not all countries can become a surplus nation. If this is the case, the Euro zone fiscal policies and framework should focus on gradually reducing deficits of the debt-ridden countries over the long-term while preventing the reoccurrence of recession. Issuance of Euro bonds to cover fiscal deficits also implies the monetization of sovereign debts, and is deeply intertwined with government fiscal policy. Therefore, issuing Euro bonds can be regarded as a first step towards a fiscal union. Both monetary and fiscal consolidations are often considered as necessary conditions for the optimum currency area such as the Euro zone. In this sense, the third option is the ultimate solution for the Euro zone if it intends to remain as a single-currency area.

## **V. The Growing Importance of Financial Regulation and Supervision**

### *A. Importance of Macro Prudential Regulation<sup>8</sup>*

The importance of macro-prudential supervision intensifies during a global crisis. Such supervision is a general equilibrium approach to stabilizing the entire financial system, which takes on even greater significance in times like these, that is, when the Global Financial Crisis originated not from banks but from the shadow banking system (*e.g.*, hedge funds, investment banks, and insurance companies). The previous method, which can be characterized by financial supervision and regulation enforced by individual financial institutions, did not guarantee stability of the overall financial system. In other words, policies taken by an individual institution to improve its own financial prudence do not guarantee the soundness of the entire financial system; in some cases, it may even cause more harm.<sup>9</sup>

Here, two examples are provided to prove that micro prudential regulation leads to credit crunch and fire sales of assets. The first one is described as follows. Suppose that there are three financial institutions, A, B, and C. Let us assume that B owes money to A, C to B, C to A. Suppose that A intends to raise its BIS ratio and asks B to pay off its debt, then B asks C, and then C asks A to pay back to achieve its target

<sup>8</sup> See Hanson, Kashyap, and Stein (2011).

<sup>9</sup> See Shleifer and Vishny (2011).

BIS ratio as well. This process will only drain liquidity and lead to a credit crunch, making the entire financial system unstable. Yet institution A fails to achieve its original purpose of increasing its BIS ratio. One financial institution selling its assets would not have much impact on asset prices. However, if all financial institutions dispose of their assets at the same time to improve their respective BIS ratios, a credit crunch (*i.e.*, a drastic fall in market credit) and fire-sales (*i.e.*, assets sold at extremely discounted prices) might simultaneously occur. If asset prices significantly fall, institutions would fail to raise their BIS ratios and may need to sell more assets.

Let us consider the second example. Suppose that bank A has US\$ 100 billion in assets, US\$ 90 billion in liabilities, and US\$ 10 billion in equities, obtaining a current BIS ratio of 10%. Assume that the bank's target BIS ratio is 12.5%. If the bank sells its assets at current prices, the BIS ratio could increase to 12.5%, with the assets and liabilities reduced by \$20 billion. Nevertheless, if an excessive number of banks can only sell their assets at 10% discounted price, then the balance sheet would reflect a decrease of \$20 billion in assets and \$18 billion in liabilities, incurring a capital loss of \$2 billion. Thus, assets would decrease from \$100 to \$80 billion and equity from \$10 to \$8 billion, retaining the BIS ratio at 10%. This would mean that additional disposal of assets is necessary to raise the ratio – the outcome caused by fire-sales.

As a means to enhance macro-prudential regulation and supervision, the Basel Committee on Banking Supervision (BCBS) and Financial Stability Board (FSB) have been working towards strengthening regulations on bank capital and liquidity, and reinforcing risk management of Systemically Important Financial Institution (SIFI). Here, the key issue lies in securing enough equity to prevent financial systemic risks. Time-varying BIS ratio is likewise necessary to control capital pro-cyclicality. This means that capital buffer must be increased during an economic boom to cover the loss during a slump. Capital buffer has two types, namely, capital conservation and counter cyclical capital. Measures to improve the quality of capital are also necessary. Thus far, the BIS ratio has been measured as the ratio of the Tier 1 capital to risk weighted assets. Tier 1 capital includes preferred stocks, the interest payments of which may significantly strain banks during a financial crisis.

In September 2010, BIS member countries agreed to strengthen the regulation on capital adequacy. Specifically, the current 2% of common stock equity ratio, consisting of common stocks and earned surplus, is

expected to reach 4.5% by 2015 and 7% by 2019. In cases of an extreme credit boom, supervision authorities may request banks to accumulate an additional 2.5% capital to control for pro-cyclicality. In the modified rule, banks are required to maintain either 7% common stock equities during normal times and 9.5% during credit booms, or 8.5% Tier 1 capital during normal times and 11% during credit booms.

Banks could increase their BIS ratios either through the accumulation of additional capital or disposal of some assets. When prompt corrective actions improve the BIS ratio, raising capital is encouraged more than reducing assets, to prevent the credit crunch and fire sales. However, raising capital through the market can be difficult in times of crisis. When a firm or financial institution becomes insolvent, shareholders first bear the loss, and then the creditors follow. In such cases, bailout funds can be created to help banks recapitalize, using measures that prevent the moral hazard of banks. Issuing reverse or contingent convertibles could be another way to increase the BIS ratio. Reverse convertible bond can be converted into stocks when the BIS ratio falls under a certain level. Similarly, insuring assets can also improve the BIS ratio. Nevertheless, the risks of ineffective insurance existed when the Global Financial Crisis occurred, and the saved funds cannot fully cover the insurance money.

Similar to the BIS ratio in the shadow banking system, the down payment (haircut) ratio functions as a safety net in financial transactions. Acting as the bank BIS ratio, an appropriate level of down payment may be required for stable financial transactions. In addition, minimum leverage regulation (3% in Tier 1 terms) would be introduced to control the ratio of equity to total assets.

Moreover, liquidity must be secured in the market to guard against credit crunch and fire-sales. The maturity mismatch between assets and liabilities requires the security of sufficient short- and long-term liquidity to maintain stability in the financial system. In particular, Korea has problems securing liquidities in both its own and foreign currencies.

For the global financial regulatory reform, enhancing liquidity standards that cover both short-term liquidity ratio (liquidity coverage ratio) and mid- to long-term liquidity ratio (net stable funding ratio) are actively being discussed. The liquidity coverage ratio refers to the stock of high quality liquid assets divided by net cash outflows over 30 days. Short-term liquidity regulation requires this ratio to be maintained at over 100%, which means that a sufficient amount of high quality liquid assets are secured for a month. Regulation on this ratio requires that the ratio of the available to the required amount of stable funding be maintained

at over a 100%, to ensure the necessary liquidity for a year.

Meanwhile, international institutions agreed that to resolve problems of foreign currency liquidity and highly erratic foreign exchange rates, individual countries must regulate the dynamic fluctuations of short-term foreign capital flows, which were notably witnessed during the Global Financial Crisis. Regulation and supervision on SIFI are considered necessary at the global level due to problems of moral hazards. If the international institutions excessively resort to notions of being “too large to fail” or “too well-connected to fail,” poor risk management and systemic financial risk could most likely occur. In fact, the recent crisis has proven that major financial institutions were mainly responsible for the global financial systemic risk.

Currently, there are active debates regarding the process of setting up global standards to define SIFIs and measures to strengthen proper supervision and regulation. There are several criteria used in identifying SIFIs, including size, substitutability, and interconnectedness; however, difficulties in reaching an agreement in the actual selection processes is also expected. Moreover, the question remains as to whether or not the selection at the international level is enough or additional national level processes must be introduced. The current discussion on SIFI regulation and supervision mainly focuses on finding supplementary regulations on capital and liquidity as well as on containing the contagion effects to prevent the systemic risk.

### *B. Regulation on Blind Spots*

Various measures on regulation blind spots are also discussed, some of which have already been agreed upon, such as strengthening supervision on hedge funds, over-the-counter derivatives market, as well as credit rating agencies improving the incentive systems for financial institutions and reforming accounting systems. Investment losses of private equity firms and hedge funds have a far-reaching impact across the economy, engendering credit crunch and system risks in the financial market. These are regulatory systems that could identify problems of non-banking systems, and as such, the evaluation of these risks is necessary.

OTC derivatives markets are intricately connected with multiple trade partners; thus, risks could quickly spread to other financial markets. Thus, new infrastructures (*e.g.*, central counter party, trade repository, and electronic commerce platform) are necessary to prevent excessive risk-building and induce a more open and transparent market. Reforms

on the incentive systems are similarly indispensable. Based on short-term performance, the old incentive system motivated the management to take excessive risks. A number of reform measures are discussed at the FSB, such as establishing effective governance system, setting up risk-adjusted compensation scheme, promoting public disclosure, and enhancing government supervision on incentive systems.

Reform is similarly necessary on accounting systems that enable the consistent applications of a global accounting standard. This is especially critical when financial information loses credibility due to difficulties in the value assessment of financial products, complexity of accounting standards, and increasing off-balance-sheet transactions. Balancing mark-to-market and book value as well as accumulating loss provisions against expected future losses are a few examples of the many accounting reforms that can be implemented.

Furthermore, given the heavy investor reliance on their inaccurate risk-assessment and credit-rating, the fundamentals of a credit rating agency require upgrades by maintaining independence, preventing conflicts of interests, improving the quality of credit rating, and increasing public disclosure of information. Above all, the problem of moral hazard and conflict of interest (agencies receiving service charges from the financial institutions whose credit and financial instruments are being rated) require meticulous management.

### *C. The Need to Ensure Global Coordination of Financial Regulation and Supervision*

The global coordination of financial regulation and supervision is essential in preventing regulation arbitrage on a global basis. In January 2010, the Obama administration proposed financial reforms to separate investment from commercial banks; the latter were then banned from holding hedge and private equity funds. If such reforms continued, major changes are expected to occur in the U.S. financial structure, directly and indirectly influencing the reform plans of Korea's financial sector.

Setting up standards has been discussed to regulate and supervise the financial sector as well as to prevent another financial crisis from recurring. Such discussions aim for the following: strengthening regulation over the financial institutions regarding capital adequacy and liquidity, setting an upper limit to leverage; strengthening supervision and regulation on housing mortgage loans, choosing and strengthening regulations on systemically important financial institutions, improving the

governance and compensation structure of financial institutions, improving risk management on derivatives, and enhancing the objectiveness and transparency of credit rating agencies.

## **VI. The Challenges Faced by the Korean Economy<sup>10</sup>**

### *A. The Need for Macro-Risk Management*

Three years after the collapse of Lehman Brothers, internal and external risk factors abound along with the uncertainties that remain in the Korean economy. In early August of 2011, Standard & Poor's, one of the world's leading credit rating agencies, downgraded the credit rating of the U.S., which led to extreme fluctuations in the Korean stock market. Prices drastically dropped and volatility greatly intensified, causing immense turmoil in the financial market. Several reasons cause Korea's stock market to fluctuate more than those of key player countries such as the U.S. or Euro zone. As a small open economy, Korea is highly sensitive to overseas economic downturn. The export-oriented Korean economic model has been viewed as more vulnerable especially after the Global Financial Crisis. In August 2011, trade surplus significantly decreased and stock prices heavily fluctuated in automobile, petro-chemical, and shipbuilding industries, which effectively served the Korean economy in the past. In addition, the Korean industrial competitiveness has, in effect, been re-evaluated. Well-known, hardware-oriented Korean electronics and semiconductor industries rapidly grew, achieving top ranks in their respective fields. Nevertheless the advent of smart phones has changed the landscape of the IT industry with higher emphasis on software competitiveness. Nevertheless, it remains to be seen whether the Korean economy would be able to develop globally competitive software industry in a short period of time and achieve top ranks.

In addition, the Euro zone crisis negatively affected the global financial market, and massive European capital was removed from the Korean market, causing considerable depreciation and extreme fluctuations of foreign exchange rates. The sovereign debt crisis in the Euro zone caused similar impact. Over the last three years, the quick recovery of the Korean economy could be highly attributed to its expansionary fiscal and monetary policies as well as the depreciation of the Korean won. With high inflation rates and sovereign debt accumulation, continuing expansionary

<sup>10</sup> See Kim (2009).

demand management policies would not be as beneficial to the Korean economy. Furthermore, the Global Financial Crisis is expected to continue over the next several years. As such, Korea's policies should prioritize the implementation of macro-risk management as well as the achievement of price, financial, foreign exchange, and fiscal stabilities. Furthermore, Korea needs pre-emptive actions to resolve the current problems and revitalize the economy through job creations in the service sector.

### *B. Achieving Price Stability*

The Korean economy faces several policy difficulties in overcoming the recession. As money supply and commodity prices increase, curbing inflation has become a new economic challenge. Price stability is a necessary condition for maintaining sustainable economic growth and is a major government priority, because inflation significantly affects the working class.

As of August 2011, the 5.3% inflation rate was higher than the government target rate of 3%, indicating that the BOK failed to control inflation. Specifically, it maintained call rates at 3.25% for an extended period, as the uncertain economic situation intensified with the Euro zone sovereign debt crisis.

If the interest rates continue to be negative for a long time, the bank fails not only in controlling inflation but also in addressing household debt problems. Recently, household debt has increased faster than the nominal GDP. Many people worry about the explosion of household debts and insolvency of the financial institution. In principle, interest rates are usually increased to reduce inflation rates and household debts. Prior to the BOK law revision, the central bank prioritized price stability. Given that the revised law additionally requires financial stability, the BOK should have raised the interest rates and pursued price stability earlier, during the time when the economic situation is positive and no concerns abound on the Euro zone sovereign debt crisis.

In fact, the BOK hesitated to raise the interest rates due to concerns about the possibility of deterring the economic recovery. A slowing economy is feared more than inflation and household debts. However, monetary authorities should remember that price and financial stability are preconditions for long-term, sound economic growth. Understanding the reasons for several months of negative interest rates is difficult, considering that economic growth rate in the previous year only reached 6.2%. The underlying issue is missing the correct timing of policy change, which

is the typical time inconsistency problem. Specifically, the bank failed to seize the opportunity to raise interest rates, postponing it for several months until the expected full economic recovery. However, as the economic problems of the U.S. and Euro zone worsened at that precise time, the BOK could no longer raise the interest rates.

### *C. Achieving Financial Stability*

The household debt problem should be addressed to restore financial stability. Recently, the household debt burden has increased faster than the nominal income growth rates. High debt levels cutting household spending contribute to economic recession. Moreover, further escalation of the household debt problem can lead to financial instability and trigger an economic recession. Therefore, countries around the world naturally become apprehensive of financial instability and economic recession as household and government debts increase.

As of June 2011, the outstanding household credit was 876.3 trillion won, with household debt accounting for 826 trillion and sales credit for 50.3 trillion. Given that a large portion of household debt comes from mortgage-related loans, maintaining housing market stability is essential to prevent household debt insolvencies. Unlike in advanced economies, Korean housing prices have not yet fully adjusted to changing economic conditions. A collapse of the real estate market bubbles was one of main factors responsible for both Japan's lost decade and the current Global Financial Crisis.

Bernanke, head of the U.S. Federal Reserve, asserted that the cause of the real estate market bubble was the U.S. government's failure to supervise and regulate subprime mortgage loans, and not the low interest rate policy that was persistently maintained after the collapse of the IT bubble. Nevertheless, the main cause of the housing market bubble was undeniably the loose monetary and credit policy. Collapse of bubbles in the housing sector caused the Global Financial Crisis. Thus, to stabilize the real estate market, we first check whether or not the current housing price is overvalued based on the global standard and then implement measures to prevent possible bubble bursts. If the Korean housing market experiences bubble bursts similar to the situation in the U.S. or Japan, prices would plummet and lead to mortgage loan insolvencies, consequently triggering an economic downturn.

The government has prevented mortgage loan insolvencies by implementing several measures, such as regulations on loan-to-value (LTV)



and debt to income (DTI) ratios. These measures were proven effective to a certain extent. However, Korean mortgage loans have several problems. First, its maturity is extremely short. The government encouraged lengthening the loan maturity with the introduction of DTI. However, the maturities of a large portion of mortgage loans are still less than three years. Among new loans, 10-year mortgage loans increased by 45% in 2008, but 3-year loans still account for nearly 40%.

Another problematic characteristic of Korean mortgage loans is that the principal and interest are not evenly paid over the entire borrowing period of time. Instead, the loan principle is paid in a lump sum at maturity. By the end of 2010, 37.3% of mortgage loans became bullet repayments and 41.3% became repayment by installment. Furthermore, most mortgage loans assume floating interest rates, which means that borrowers are obliged to take on the entire risk caused by interest rates fluctuations. The Korean mortgage loan system is highly vulnerable to external shocks, and thus, the system has a high possibility of causing financial instability when interest rates rise or when the housing market is in deep recession.

Generally, bank LTV ratios are maintained at less than 60%; nonetheless, saying that a relatively low LTV ratio means mortgage loans are safe is an exaggeration. More importantly, LTV ratio is only checked for initial banking loans. As a result, loans in the non-banking sector are not counted in the LTV calculation. If a housing buyer rents his house to another person, demanding a large amount of money deposit (*JunSe*, the typical renting system of Korea), then his real debt position with *JunSe* must be much higher than the LTV. Such mortgage borrowers are considerably susceptible to rising interest rates and falling housing prices.

When measures are implemented to cap the expansion of household debt, the working class would be highly affected due to reduced accessibility to banking loans. The low credit and income class would turn to the non-banking sector and bear greater risk premiums, resulting in significant damage to their repayment capabilities. Measures on reducing household debts should be accompanied by policies to activate financial institutions designed for the low credit and income class.

#### *D. Capital Liberalization and Foreign Exchange Rate Stability*

Towards the end of 2010, foreign exchange reserves reached US\$ 304.5 billion. Korea is a net creditor country with net assets of US\$ 89.5 billion,

foreign assets of US\$ 487.5 billion, and foreign liability of US\$ 398 billion. However, Korea is highly vulnerable to foreign capital flows. This is because Korea's net international investment is US\$ 152 billion, with US\$ 742.9 billion of overseas investment by Koreans, and US\$ 894.9 billion of domestic investment by foreigners. This peculiarity is because foreign stock market investments are not considered as liability of Korea. As of end June 2011, with US\$ 304.5 billion worth of foreign exchange reserves, the ratio of short-term foreign liability to reserve assets and to total liability amounted to 49.2% and 37.6%, respectively.

Foreign exchange rate stability requires measures to control the extreme fluctuations of foreign capital flows. However, this is difficult because such stability is heavily affected by foreign investors who have double standards toward advanced and emerging economies in interpreting imbalances in the balance of payments. Thus, the authorities should endeavor to create an environment of advanced economies that welcomes foreign investors and ensures a healthy economic situation for them. In addition, securing an appropriate level of foreign exchange reserves is necessary. With the experience of the Global Financial Crisis, Korea has learned that once foreigners pull their money out of the capital market, this creates extreme volatility in the foreign exchange and financial market. Therefore, sufficient foreign exchange reserves should be prepared, not only to cover the foreign liability but also to handle foreign investor movements in the capital market. In particular, in a small open economy, foreign investors often view the size of foreign exchange reserves, the size of foreign liability, the ratio of short-term debt to foreign exchange reserves, and the ratio of current account deficits to GDP as indicators of the fundamental soundness of the economy.

#### *E. Achieving Fiscal Stability*

Fiscal soundness is similarly necessary. When fiscal spending expanded in the process of overcoming the financial crisis, fiscal soundness naturally became a major concern. With global economic recession, fiscal spending expanded and tax revenues declined in most countries. As the debt of the private sector transferred to the public sectors, many countries have begun facing sovereign debt risk.<sup>11</sup>

The ratio of Korean government debt to GDP is lower than that of most OECD countries. However, working towards fiscal balance and evaluating

<sup>11</sup> See Kim (2011).

the government debt from several different angles is necessary. For example, after the Asian financial crisis in 1997, the bonds issued by the Korea Asset Management Corporation or Korea Deposit Insurance Corporation that were not counted as government debt were later considered as government debt. Similarly, Monetary Stabilization Bonds issued by the BOK and used in open market operations are not counted as government debt. In most countries, open market operations are implemented with government bonds. In addition, public enterprise debts, such as those of the Land and Housing Corporation and The Korea Water Resources Corporation, rapidly increased during work on national projects. If the government is ultimately responsible for these debts, then they also have characteristics of government debt. Given these special circumstances, government debt (not in the sense of delivering official statistics) should be tackled and evaluated from several different angles.

#### *F. Investment and Job Creation*

Finally, investment expansion and job creation are urgently needed. As export-oriented economies easily encounter limitations for growth, economic policy needs to focus on domestic market expansion. In particular, conglomerate-led exporting industry encounter limits in generating jobs. Thus, increasing investments in the service sector could create jobs. The industrial productivity of the service sector among OECD countries accounts for 90% of the manufacturing sector, yet Korea only records two thirds. In the future, the development of service sectors, including health, finance, logistics, and education, would definitely lay the foundations for job creation and significantly increase the potential for economic growth.

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