

Safeguarding Financial Stability in a Diverging Global Economy

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I feel truly delighted and privileged to speak in the policy panel discussion at this renowned conference. In my remarks today I will start with a contextual preamble, by characterizing the current state of the global economy in comparison with previous episodes of U.S. interest rate hikes. I will then discuss the macroprudential policies introduced in Korea since the global financial crisis, and the potential risks and policy challenges that Korea now faces. Finally, I will conclude by considering the financial stability policy framework and the role of the central bank.

Upcoming Federal Reserve Rate Hike and EMEs: How Is This Time Different?

Compared with the three most recent episodes of U.S. interest rate hikes, in 1994, 1999, and 2004, the current state of emerging market economies (EMEs) appears quite different. First of all, in the past both advanced economies and EMEs were in the midst of business cycle upturns prior to the U.S. rate hikes, and the upward growth in EMEs actually accelerated after the hikes. However, the currently approaching U.S. rate hike is expected to occur during business cycle downturns in EMEs, and may thus lead to further divergences in growth between EMEs and advanced economies (see Figure 1A).

Second, not only is the amount of global liquidity that has flowed into EMEs much higher now, due to the unprecedented volume of quantitative easing, but the composition of capital inflows to EMEs has also changed noticeably. While banks were the main channel of cross-border capital flows in the past, it is now equity and bond portfolio investment that account for 65 percent of total capital inflows (see Figure 1B). And the sheer volume of portfolio investment flows has led to a stronger coupling of financial asset prices across EMEs and advanced economies, irrespective of their recent decoupling in terms of their business cycles. As one example, due to large cross-border bond investment flows, the correlation between long-term interest rates in the United States and EMEs has changed from -0.3 before the global crisis to $+0.8$ since the crisis.

Third, the expansion in global liquidity has led to a dramatic compression in credit risk and liquidity premiums on emerging market assets. Term premiums on long-term emerging market bonds have fallen to levels similar to those in the United States (see Figure 1C). This compression of risk premiums and cheap credit have brought about a significant rise in debt leverage in EMEs, in contrast to the case with advanced economies that have seen deleveraging since the crisis (see Figure 1D).

While the accommodative monetary policies in the euro zone and Japan may continue, and offset the capital outflows from EMEs to some extent, these features of the current situation suggest that the upcoming U.S. interest rate normalization could have larger than expected impacts on EMEs, if it is combined with other destabilizing factors such as the slowdown in the Chinese economy and a further decline in commodity prices. They also suggest that the financial markets and shadow banking could become important channels of crisis propagation this time. If the U.S. rate hike leads to a collapse in global risk appetite, credit and term premiums on emerging market assets could soar. And the resulting fire sales of global risky assets could precipitate crises in some EMEs, irrespective of their banking sector and external balance sheet soundness.

Macroprudential Policies in Korea since the Global Financial Crisis

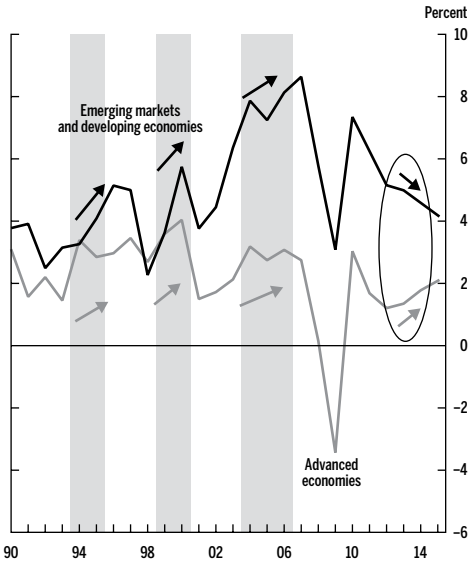
As emphasized in our paper presented at this conference four years ago (Hahm et al. 2012), for addressing financial imbalances preemptively in open EMEs macroprudential policy is more desirable than monetary policy. This is because financial cycles in open EMEs are often driven by global liquidity conditions, irrespective of the local economic situation. And monetary policy leaning against the credit cycle is often unavailable for EMEs, as tighter monetary policy would only attract additional capital inflows, further amplifying the credit cycle.

In the aftermath of the global financial crisis, Korea has introduced a variety of macroprudential policy tools to make its financial system more resilient and less procyclical. On the external front, Korea introduced a leverage cap on foreign exchange derivatives positions in 2010 and a macroprudential bank levy on noncore foreign currency bank liabilities in 2011, while reinstating taxation of foreigners' bond investment in 2011 as well, in efforts to ensure that capital inflows through banks and the bond markets do not lead to excessive procyclicality in our financial system. The macroprudential bank levy deserves special attention. As evidenced in Hahm, Shin, and Shin (2013) and in Bruno and Shin (2015), rapid accumulations of noncore bank liabilities signal vulnerabilities to systemic risk spillovers in EMEs, and fluctuations in banks' noncore liabilities are directly linked to cross-border capital flows. Therefore, as noncore foreign

FIGURE 1

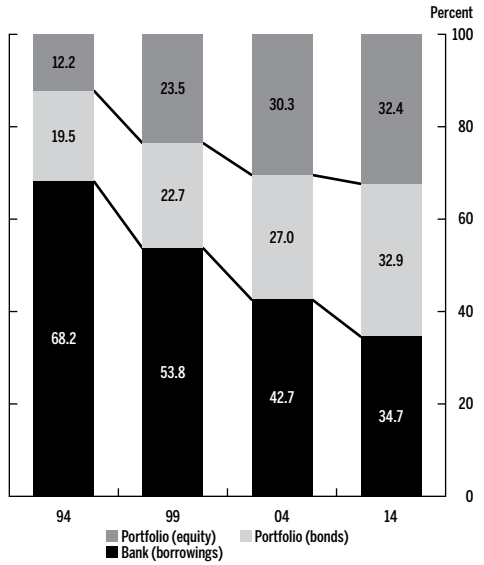
Growing Disconnect between Real Economy and Financial Cycle

A GDP Growth Rates



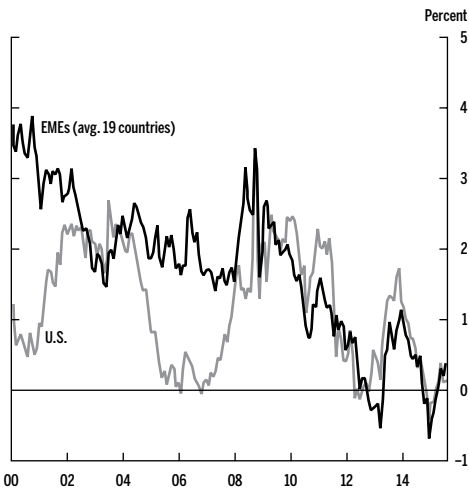
Source: International Monetary Fund (IMF).
Note: Shading indicates periods of interest rate hikes in the United States.

B Composition of Foreign Investment



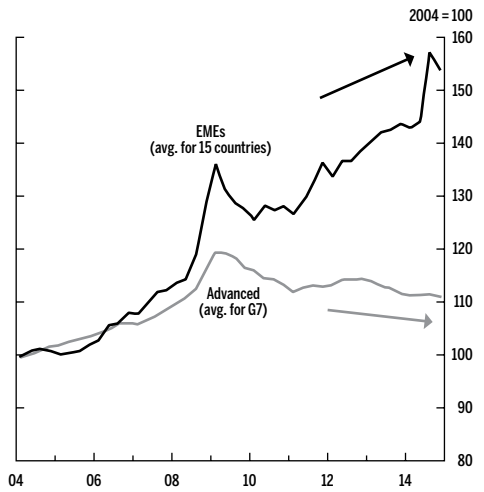
Source: IMF International Investment Position (IIP).
Note: Based on accessible country data from 19 emerging market countries, including Korea.

C Bond Term Premiums



Source: Bank of Korea.
Note: Based on 10-year government bonds.

D Private Credit/GDP



Sources: Bank for International Settlements (BIS), Bloomberg.

currency bank liabilities may lead to complicated interconnectedness among domestic and foreign banks, and their unwinding may cause significant negative externalities, their correction using appropriate macroprudential tools is totally legitimate.

On the internal front, in order to avoid credit and housing bubbles, Korea strengthened its loan-to-value (LTV) and debt service-to-income (DTI) regulations for home mortgage loans in 2009, while reinstating the loan-to-deposit ratio regulation in 2010.

Until now these diverse macroprudential policies seem to have helped to contain the buildup of financial imbalances. At this stage, it is estimated that the gap between Korea's credit cycle and its long-run trend is not large, and the banking sector's noncore liability and external debt structures are relatively sound (see Figure 2). It is also worth noting that our countercyclical macroprudential policies have provided the central bank with wider policy space to focus more on output and price stability.

Potential Financial Vulnerabilities and Policy Challenges

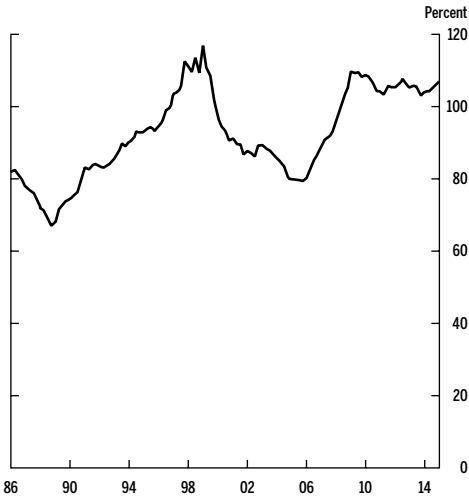
Notwithstanding these preemptive efforts, in the run-up to U.S. interest rate normalization, the containment of potential financial instabilities has emerged as a crucial policy challenge in Korea. First of all, a rise in the U.S. policy rate could trigger outflows of short-term capital, giving rise thereby to significant negative externalities for our real economy. Secondly, the trend of increasing household debt has accelerated since last year, due to the temporary easing of the LTV and DTI regulations together with our reduced policy interest rate. Let me touch briefly now on these two potential risks to financial stability.

With regard to the capital outflow risk, foreign capital flows in Korea have remained stable despite the recent global financial turmoil, in line with the Korean economy's having been differentiated from other EMEs due to its relatively sound economic fundamentals and robust external balance. However, with the global shift in the composition of capital flows, the shares of stock and bond portfolio investment have increased rapidly in Korea as well, while bank borrowings have remained stable due partly to the macroprudential policies that I mentioned earlier (see Figure 3A).

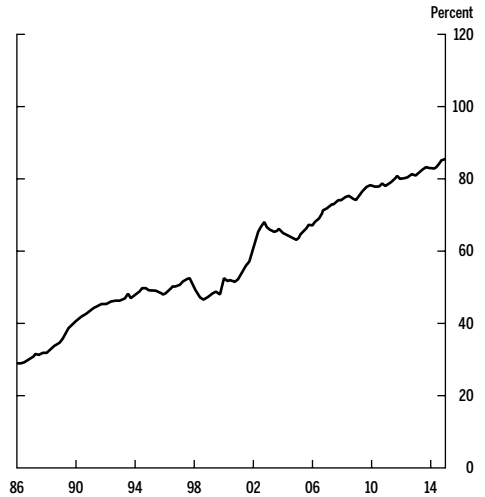
If we look at the time-series properties of foreign capital flows in Korea, the volatility of foreign portfolio investment has been relatively high compared with those in advanced economies and other EMEs. The foreign capital flow volume has been affected not only by factors such as our interest rate differential and growth gap against advanced economies but also by purely exogenous global factors such as global credit growth and the VIX (volatility index) in the

FIGURE 2
Credit Cycles and Bank Liability Structure in Korea

A Corporate Credit/GDP

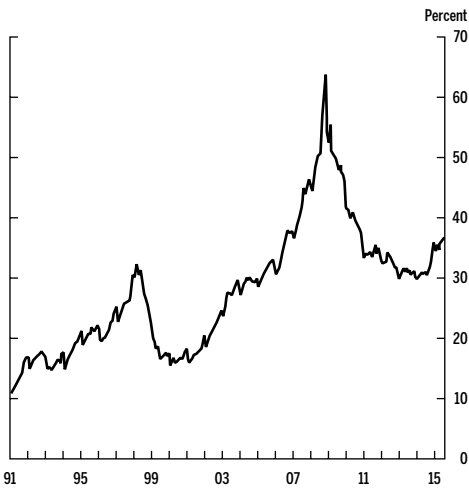


B Household Credit/GDP

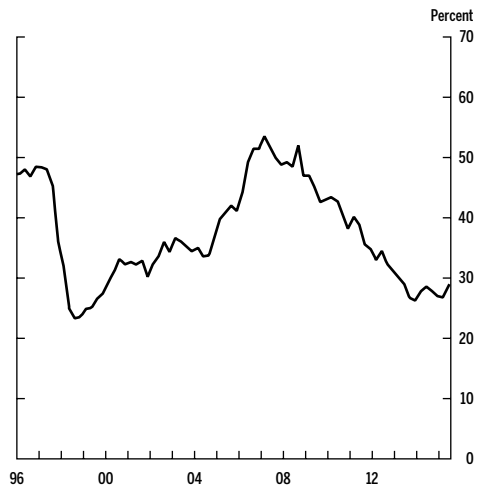


Sources: Bank of Korea, BIS.

C Bank Noncore Liabilities/GDP



D Bank Short-Term External Debt Ratio



Source: Bank of Korea.

global financial markets. Further, the impact of foreign capital flows on domestic financial market volatilities—for example, of our stock prices and foreign exchange rates—has grown greatly in the post-global-crisis period.

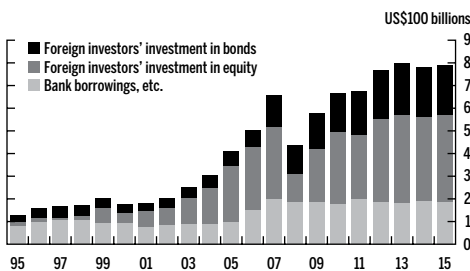
Korea's financial and foreign exchange markets have become much more resilient recently, as demonstrated by the impulse responses of the won-dollar

exchange rate to a one-unit VIX shock, and this shows that effects are dissipating much faster in the post-crisis period (see Figure 3B). But given that Korea's financial market is quite open, that global institutional investors such as banks and mutual funds are responsible for a large share of portfolio investment flows there, and that these investors tend to reallocate their country portfolios from a global perspective, some possibility of capital outflows does exist despite our robust domestic economic fundamentals.

Next let me move on to the household debt issue. Korea's household debt-to-GDP ratio, including the debt of small household enterprises, reached 85 percent at the end of 2014, possibly approaching a threshold level beyond which it may constrain consumption spending. Cecchetti, Mohanty, and Zampolli (2011), for example, suggest this threshold level to be around 85 percent. Given this large volume of household debt, any future rise in interest rates could hamper private consumption through increases in households' debt service burdens, and debt defaults by vulnerable households could then undermine the lending banks' capital soundness. At this point the possibility of such systemic risk materializing is judged to be low. According to our stress-test results (Bank of Korea 2015), for instance, under a combined shock of a 200 basis point rise in interest rates and a 10 percent housing price decline, the proportion of households at risk would increase to 14.2 percent, from 10.3 percent at present, and the proportion of debt at risk to 32.3 percent, from 19.3 percent, which could be absorbed through the current buffers in bank capital.

FIGURE 3
Capital Inflows and Impact of Global Shocks

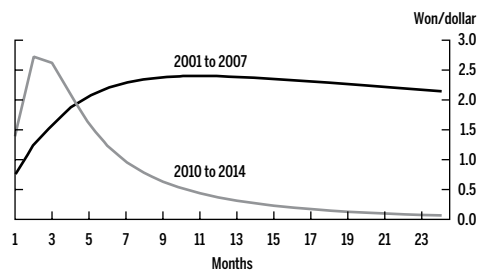
A Outstanding Balance of Foreign Financial Investment in Korea



Source: Bank of Korea.

Note: Based on IIP, but 2015 based on figures at the end of the second quarter.

B Impulse Response of Won-U.S. Dollar Exchange Rate to VIX Shock



Source: Bank of Korea.

Notes: Using the VAR model of the VIX, industrial production (rates of change), and the won-dollar exchange rate. Time lag is two months, and Cholesky decomposition is applied. The shock is a 1 point increase in the VIX.

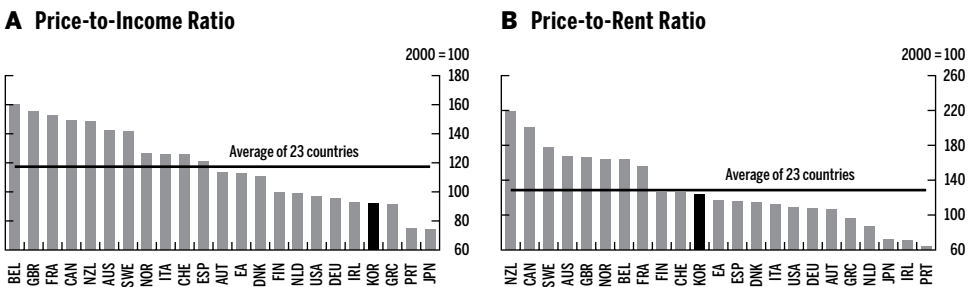
Housing prices also do not seem so greatly overvalued in Korea. The increases in our price-to-income ratio and price-to-rent ratio have been modest compared with those in other OECD countries (see Figure 4), suggesting that the risk of rapid housing price adjustment may not be high in Korea. However, if the current trend of growth in household debt persists, then the upturns of our credit and housing cycles may bring about excessive disparities with the underlying fundamentals such as household income and debt service capacity. It is therefore imperative that we come up with preemptive countercyclical macroprudential measures now. And in this context, the supervisory authority recently announced policy measures to (1) improve the mortgage debt structure by accelerating the switch to fixed-rate and amortized loans, and (2) strengthen bank lending assessments of borrowers' repayment capacities.

Financial Stability Policy Framework and the Central Bank

As I have noted, the latent risk and potential effects associated with the upcoming U.S. interest rate hike could be large in EMEs, and Korea would not be exempt. In this context, the Bank of Korea has devoted persistent efforts to expanding its financial stability role. First, as a key participant in the macroprudential policy governance scheme, we conduct in-depth analyses and assessments of systemic risk, prepare the *Financial Stability Report*, and work hard to communicate with the public. We also conduct co-examinations of banks and participate in macroprudential councils with other government bodies.

In addition to our macroprudential policy-related roles, as the monetary policy authority we devote steady efforts to improving our monetary policy strategy framework so as to incorporate financial stability concerns when formulating optimal policies. While I believe that macroprudential policies must

FIGURE 4
Housing Prices in Korea



Source: OECD.
Note: As of end-2014.

be the first line of defense in open EMEs, there are reasons why these policies are not always sufficiently effective. Macroprudential supervision could, for example, be subject to more political pressures than monetary policy, since it has direct bearings on the business of financial institutions, and policy inaction bias could result. Further, accommodative monetary policies that do not consider financial stability concerns may lead to excessive risk taking. Low interest rates may, among other results, lead to excessive search for yield, expanded leverage through valuation effects, and lower risk premiums.

Various approaches can be used to consider financial stability risks in formulating monetary policy strategy. For instance, we need to consider the financial stability implications in setting our medium-term inflation target, which is currently revised every three years in Korea. And we can consider financial stability risks in setting the target path for output. One example here would be the finance-neutral potential GDP growth rate and output gap as suggested by Borio, Disyatat, and Juselius (2013). We could also use estimates of a real neutral interest rate that takes the financial cycle into consideration. However, when monetary policy is conducted with financial stability in mind, we will also need to be very cautious about any unintended consequences—for instance, the risk of its reducing inflation expectations through weakening public confidence in the central bank's commitment to inflation targeting.

Ultimately, it is essential to conduct our macroprudential and monetary policies in a harmonized and complementary manner. To achieve this we need an effective, operating macroprudential policy governance scheme, which guarantees timely information sharing and cooperation among the related institutions. In addition, in order to maintain our monetary policy independence and secure political neutrality in macroprudential policy, relevant institutional devices are needed within the policy framework. For instance, we need devices to enhance the transparency and accountability of the macroprudential policymaking scheme, and we also need to clearly define the central bank's role related to macroprudential policy. For open EMEs, in the end, the effective coordination of monetary and macroprudential policies will be the key to simultaneous achievement of the objectives of price stability, output stability, and financial stability.

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