

[Overview]

The financial soundness of households and corporations has declined somewhat, but financial institutions' capital adequacy, foreign exchange soundness, etc. are maintaining generally favorable pictures. In the household sector, first, while income conditions are not improving greatly the amount of household debt has risen substantially owing for example to an increase in housing transactions. In the corporate sector the slumps in growth and profitability have continued, with sales decreasing and operating income-to-sales ratios falling.

Improvements in profitability at banks have been insufficient, but capital adequacy is good and growth has improved slightly. Profitability, asset soundness and growth at non-bank financial institutions have also shown improvements. In the financial markets, the volatility of interest and exchange rates has expanded but the trend of stability has continued overall, with the

stock market showing robustness for example. The improvements in foreign exchange soundness have persisted, with net external assets increasing and the proportion of short-term external debt contracting.

These changes in the financial stability situation are reflected in the Financial Stability Map¹⁾²⁾, comparing the present time with the period analyzed for the H2 2014 Financial Stability Report. The Financial Stability Index (FSI)³⁾, which indicates the situation related to financial stability, has also been below the "Warning" stage threshold (8) since 2013, and as of April 2015 was showing a level of 3.5.

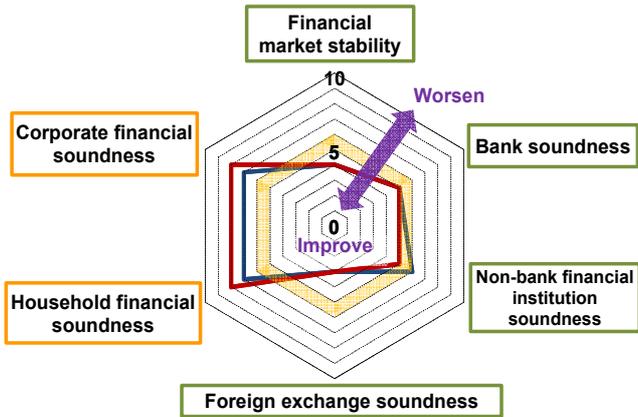
1) The Financial Stability Map presents a comprehensive picture of stability in six dimensions – two concerning macroprudential soundness conditions (the debt servicing capacities of the household and business sectors) and four concerning the financial system (banks, non-bank financial institutions, the financial markets and foreign exchange soundness). If the decile reading of a particular dimension is from 5 to 6, then this may be seen as a degree of stability in that dimension corresponding to its average levels in the past (since 1995).

2) Beginning from this H1 2015 Financial Stability Report, the financial market infrastructure is being included as a sector related to financial system stability. Since this is a sector connected with the financial substructure, however, including the payment and settlement system for example, it has not been included in the Financial Stability Map.

3) The Financial Stability Index (FSI) is an index created by converting a variety of different financial stability indicators into a single index, and can be used as one of the indicators for judging overall macroprudential conditions. Here the optimum critical threshold Warning and Crisis stages are calculated on the basis of the "noise-to-signal ratio" approach, at 8 and 22 respectively. For further details refer to the April 2012 Financial Stability Report, <Box IV-1> "Outline of Financial Stability Index (FSI)".

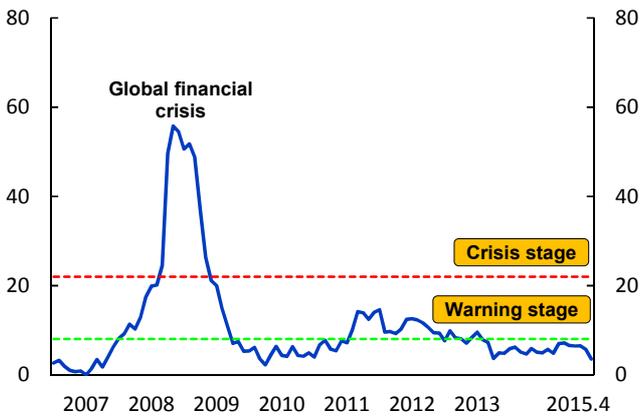
Financial Stability Map¹⁾²⁾

- Period analyzed for H2 2014 Financial Stability Report
- Period analyzed for H1 2015 Financial Stability Report



- Notes: 1) The closer to the center, the greater the degree of stability
- 2) Macprudential soundness condition dimensions,
 Financial system dimensions

Financial Stability Index (FSI)¹⁾



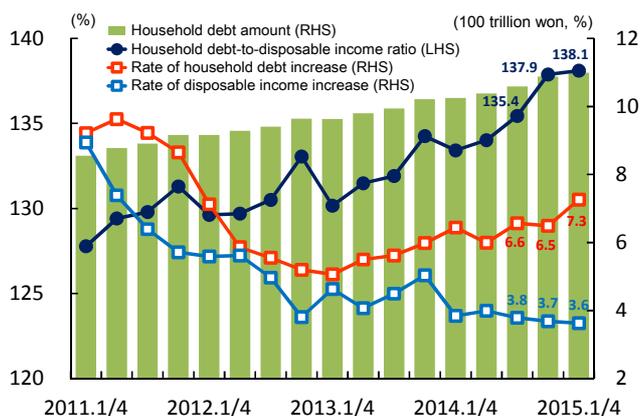
- Note: 1) The Financial Stability Index is measured based on values from 0 (min) to 100 (max). The closer it is to 100, the higher the level of instability.
 <The level during the Asian financial crisis (Jan. 1998) equals 100>

Source: The Bank of Korea

[Korea's financial stability situation]

1 Household financial soundness has been declining, on an expansion in the quantity of household debt for example. With its rate of increase (household credit statistics basis) having grown rapidly since August 2014, household debt totaled 1,099 trillion won as of end-March 2015, higher by a considerable 7.3% year-on-year. Together with this, as the rate of increase in disposable income is also showing sluggishness the household debt-to-disposable income ratio, at 138.1% (estimated) at end-March 2015, had climbed a substantial 2.7% points compared to the end of September 2014 (135.4%).

Amount and rate of increase¹⁾ of household debt²⁾, and household debt-to-disposable income³⁾ ratio

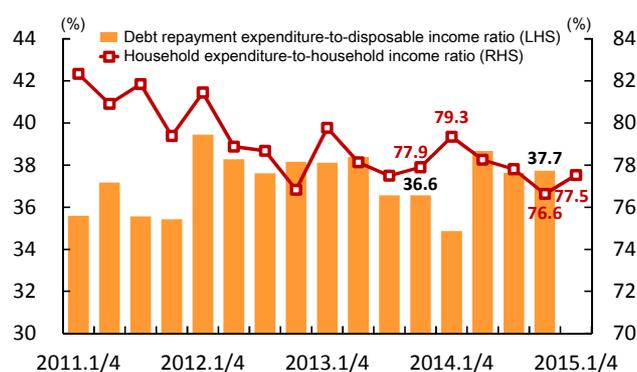


Notes: 1) Period-end basis (year-on-year)
 2) Household credit statistics basis
 3) Disposable income for Q1 2015 estimated using household disposable income-to-gross national income ratio (average over immediately preceding three years)

Source: The Bank of Korea

The ratio of household debt repayment expenditures to disposable income stood at 37.7% in Q4 2014, having risen by 1.1% point year-on-year, as loan principal repayments had increased on an expansion in the proportion of amortizing loans. The household expenditure-to-income ratio on the other hand recorded 76.6% in Q4 2014 and 77.5% in Q1 2015, lower by 1.3% point and 1.8% point respectively year-on-year in line with the slowdown in consumption. The household financial assets-to-financial liabilities ratio (226.7% as of end-March 2015) has meanwhile maintained a relatively satisfactory picture, as the rate of increase in financial assets has continually exceeded that in financial liabilities.

Debt repayment expenditure¹⁾-to-disposable income and household expenditure²⁾-to-income³⁾ ratios



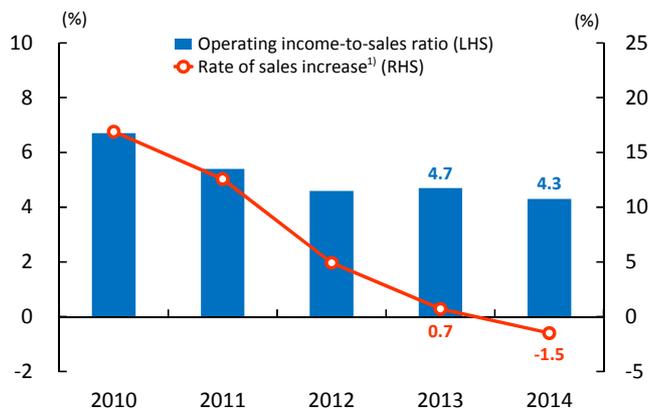
Notes: 1) Amounts of loan principal and interest repayment, credit card settlement costs, etc.
 2) Consumption and non-consumption (taxes, pension/insurance payments, interest costs, etc.) expenditures
 3) Earned income, business income, property income, transfer income, etc.

Source: Statistics Korea

2 The slumps in growth and profitability in the corporate sector have continued.

With the rate of sales growth recording a more negative figure (-1.5%) than that in 2009 just after the global financial crisis (-0.1%), the stagnation in corporate growth has worsened. The operating income-to-sales ratio also stood at 4.3% in 2014, down by 0.4% points from 2013 (4.7%), as profitability fell again although it had shown signs of slight improvement in 2013.

Corporate growth and profitability

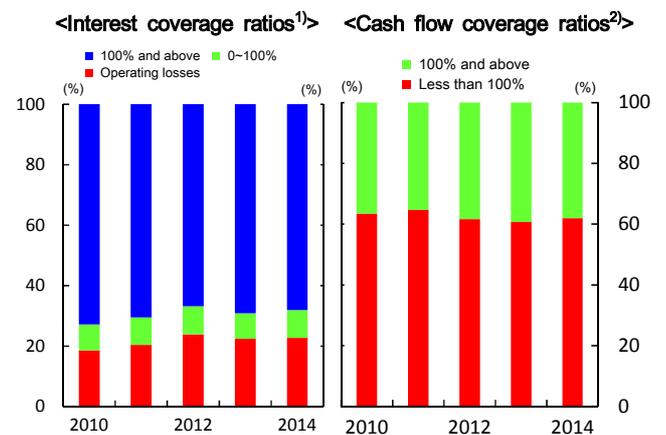


Note: 1) Year-on-year
Source: The Bank of Korea

The favorable picture of financial structure stability has however continued, thanks to debt adjustments, to the securing of capital, etc. The percentage of corporations with interest and cash flow coverage ratios below 100% has climbed slightly, but the share of those with debt ratios of 200%

and above (2013 15.6% → 2014 13.9%) has fallen, and the borrowings-to-total assets ratio (2013 25.8% → 2014 25.3%) has also become lower.

Distributions of indicators related to corporate financial structure soundness

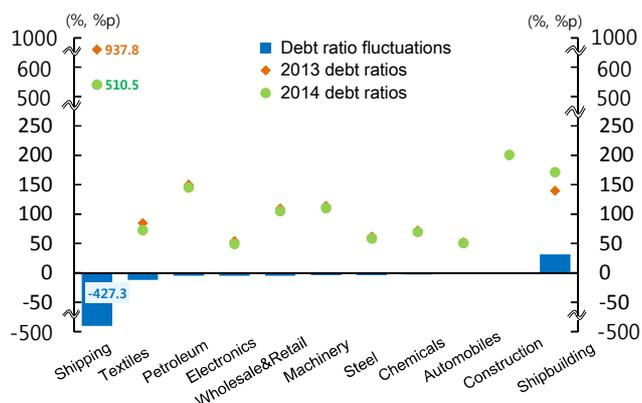


Notes: 1) Operating income / Interest expenses
2) (Cash flow from business operations + Interest expenses) / (Short-term borrowings + Interest expenses)

Source: The Bank of Korea

Regarding the individual industry debt ratios, meanwhile, they have fallen in most industries with the exceptions of shipbuilding and construction. The only ones with debt ratios above 200% are the shipping (510.5%) and construction (200.7%) industries.

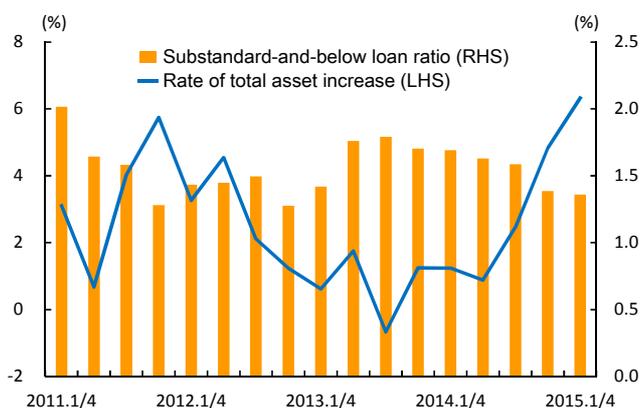
Debt ratio fluctuations¹⁾ by major industry



Note: 1) 2014 debt ratio – 2013 debt ratio
Source: The Bank of Korea

3 Bank soundness has remained generally satisfactory. Growth has expanded as loan assets have increased steadily since Q3 2014, and with the substandard-and-below loan ratio falling, on disposals of bad loans for example, asset soundness has also sustained a trend of improvement.

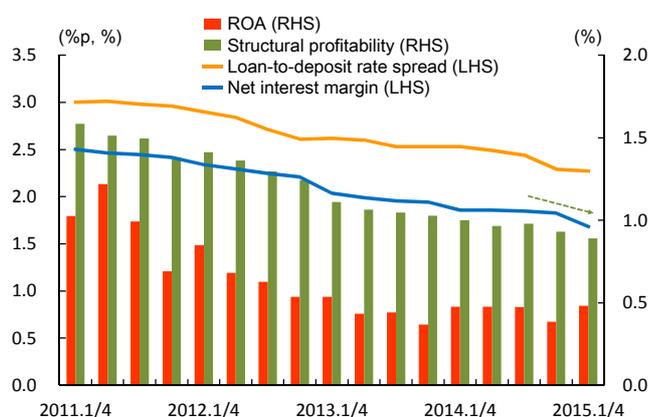
Commercial bank substandard-and-below loan ratio, and rate of total asset increase¹⁾



Note : 1) Year-on-year
Sources: Commercial banks' business reports

Profitability has however fallen to a small extent, on a drop in interest income due to the narrowing of the loan-to-deposit interest rate spread. With the continual declines in this spread and in the net interest margin, structural profitability (indicative of banks' capacities to generate sustainable profits) fell from 0.98% in Q3 2014 to 0.89% in Q1 2015. The return on assets (ROA) did however rise slightly in Q1 2015, on one-off factors such as income from sales of securities.

Loan-to-deposit spread, net interest margin, ROA and structural profitability¹⁾²⁾

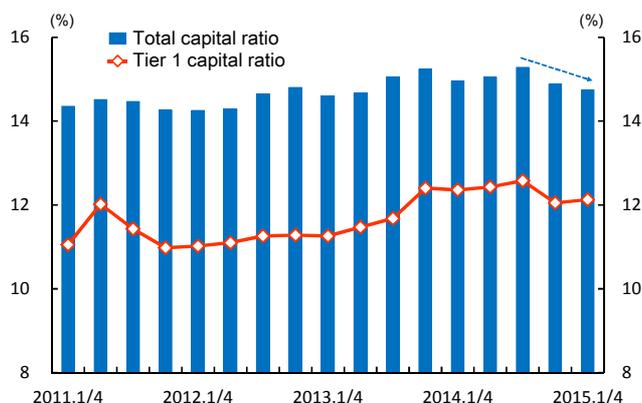


Notes: 1) $(\text{Interest income} + \text{Fee income} + \text{Trust account income} - \text{Operating expenses}) / \text{Total assets}$
2) Annualized rates

Sources: The Bank of Korea, Commercial banks' business reports

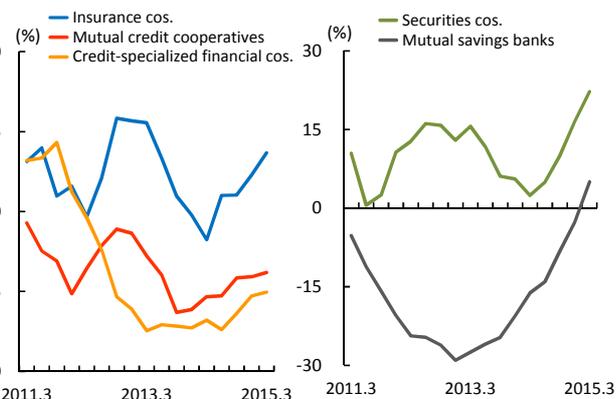
Capital soundness has remained satisfactory. At 14.73% as of Q1 2015 the BIS total capital ratio had dropped a bit from its 15.29% Q3 2014 figure, as credit risk-weighted assets had increased, but was greatly exceeding the minimum Basel III capital adequacy ratio standard (8.0%).

Commercial bank BIS total capital and Tier 1 capital ratios¹⁾²⁾



Notes: 1) Period-end basis
 2) Basel II basis until Q3 2013, Basel III basis since Q4 2013
 Sources: Commercial banks' business reports

Non-bank financial institution rates of total asset growth, by financial sector¹⁾



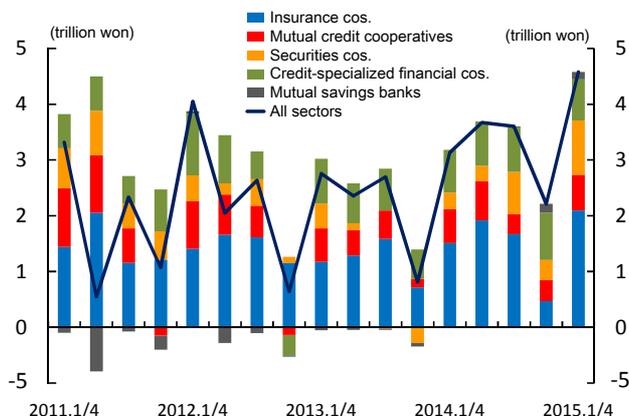
Note: 1) Excluding increases due to new market entries (NongHyup Life Insurance, NongHyup Property & Casualty Insurance, KB Kookmin Card, Woori Card and Hana Card) and accounts receivable of securities companies (year-on-year)
 Sources: Financial institutions' business reports

4 With their paces of growth in asset size accelerating, non-bank financial institutions⁴⁾ soundness, including profitability, asset soundness, capital adequacy, etc., has on the whole improved. Rates of total asset growth have shown increases in all non-bank financial sectors, and total assets have reversed to an upward trend at mutual savings banks as well in line with increases in their loans since their restructurings undertaken to this time.

Profitability is still at a low level, but has shown trends of overall improvement. Net incomes have risen, on securities companies' increases in bond-related profits, insurance companies' higher investment operating profits, credit-specialized financial institutions' gains from sales of equity, etc. Mutual savings banks have reversed to a net income surplus for the first time since 2011, owing to declines in their provisions for credit losses for example.

4) Covering insurance companies (life and non-life insurance companies), mutual credit cooperatives (agricultural, fisheries and forestry cooperatives, credit unions and community credit cooperatives), securities companies, credit-specialized financial institutions (credit card companies engaging in the credit card business only, leasing companies, installment financing companies and venture financing companies), and mutual savings banks.

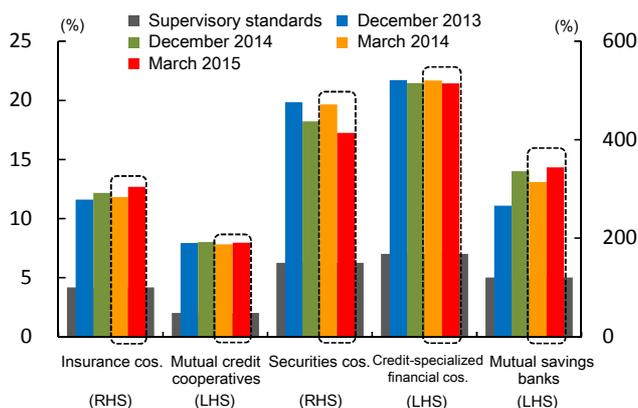
Non-bank financial institution net incomes



Sources: Financial institutions' business reports

Capital adequacy, which indicates institutions' loss absorption capacities, has maintained satisfactory levels exceeding the financial supervisory standards by large extents in most non-bank financial sectors.

Non-bank financial institution capital adequacy ratios¹⁾ by financial sector

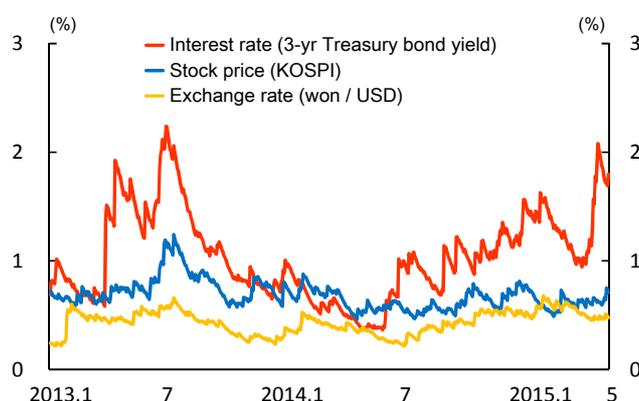


Note: 1) Insurance companies' risk-based capital ratio (financial supervisory standard 100%), mutual credit cooperatives' net capital ratio (2%; for community credit cooperatives 4%; for agricultural cooperatives 5%), securities companies' net operating capital ratio (150%), credit-specialized financial institutions' adjusted capital ratio (7%; for credit card companies 8%), mutual savings banks' BIS capital ratio (6%; for those with asset amounts of 2 trillion won and above 7%)

Sources: Financial institutions' business reports

5 The domestic financial markets have sustained their trends of overall stability, with stock prices having risen greatly for instance, although interest and exchange rate volatilities in response to changes in global financial market conditions and in monetary policy-related expectations have expanded.

Interest rate, stock price and FX volatilities¹⁾

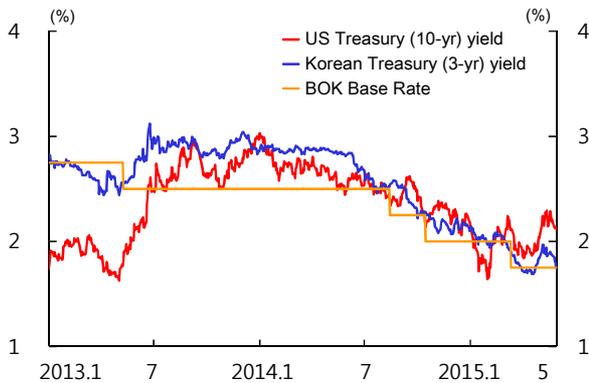


Note: 1) Daily price volatilities calculated using exponential weighted moving averages (EWMA)

Source: The Bank of Korea

The Treasury Bond (3-year) yield had fallen earlier in 2015, affected for example by the cuts in the BOK Base Rate, but it has reversed to an increase since mid-April on the sharp jumps in long-term interest rates in major countries due to the easing of deflation concerns.

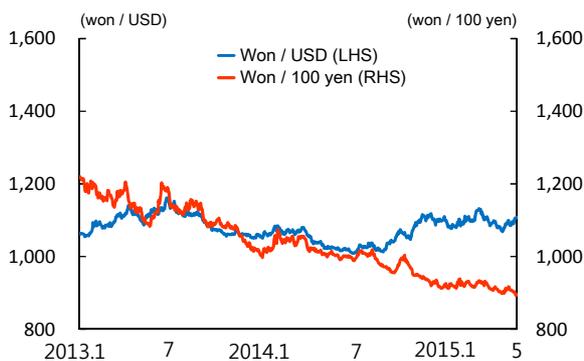
Korean and US Treasury bond yields, and BOK Base Rate



Sources: Korean Financial Investment Association, Bloomberg

While the won/U.S. dollar exchange rate has shown a generally upward trend, influenced by the global strengthening of the dollar, the won/yen rate has in contrast fallen considerably on the Bank of Japan’s decision to carry out additional quantitative easing.

Won/USD and won/yen exchange rates

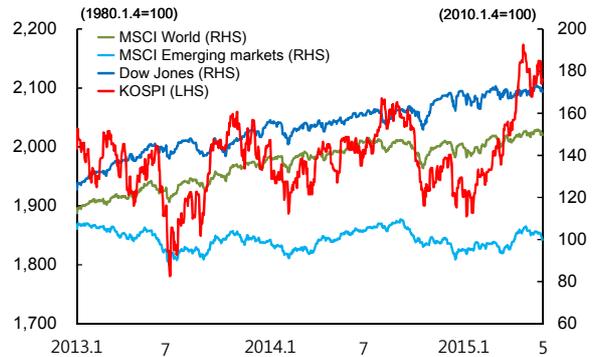


Sources: The Bank of Korea, Korea Exchange Bank

Stock prices (KOSPI) have risen to a large extent in 2015, owing for example to

continued net purchases by foreigners in line with the weakening expectations of an early interest rate hike by the U.S. Federal Reserve.

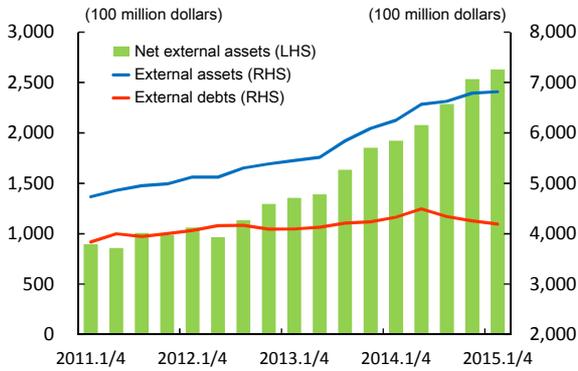
KOSPI and global stock prices¹⁾



Note: 1) Based on Dow Jones Index for US, and MSCI for advanced and emerging market countries
Source: Bloomberg

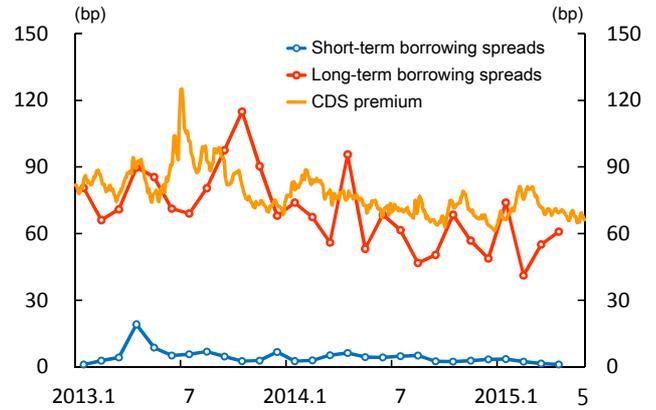
6 Foreign exchange soundness, encompassing the external payment capacity, the foreign currency liquidity situation, etc., has sustained its satisfactory conditions. While net external assets have increased, the external payment capacity has maintained soundness as the total external debt-to-nominal GDP ratio and the proportion of short-term in total external debt have both fallen.

External assets and debts



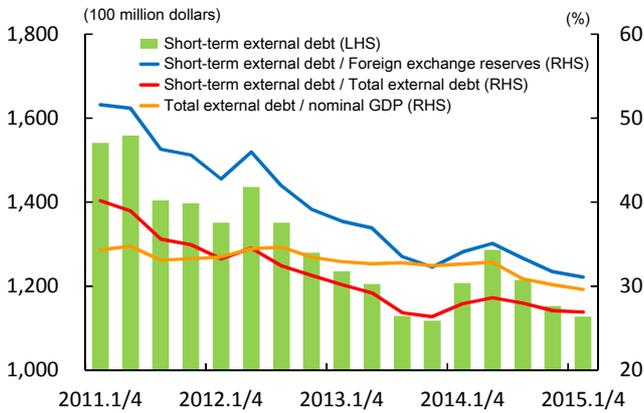
Source: The Bank of Korea

Domestic bank borrowing spreads¹⁾ and CDS premium



Note: 1) Borrowing spreads based on LIBOR (nine domestic bank basis); calculated by amount-weighted averaging
Source: The Bank of Korea

External payment capacity and liquidity indicators

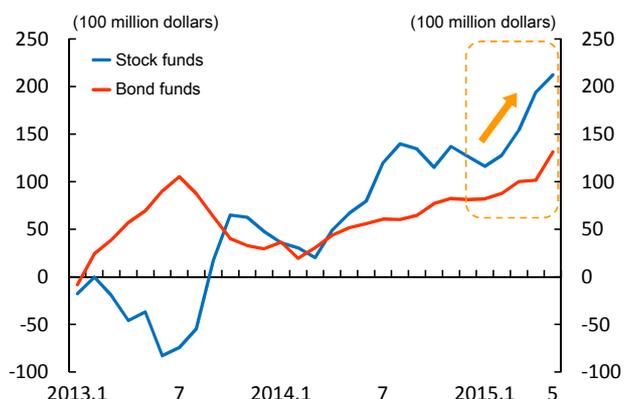


Source: The Bank of Korea

Foreigners' securities investment funds had shown trends of outflows from EMEs and inflows to advanced countries from October 2014. There has however been a shift back to net inflows to EMEs since February 2015 – on the weakening expectations of an early interest rate hike by the U.S. Fed, on the expansion in quantitative easing by the European Central Bank, and so on.

Domestic banks' foreign currency funding conditions are also in a favorable situation. Their foreign currency borrowing spreads and their CDS premiums have sustained their low levels for example.

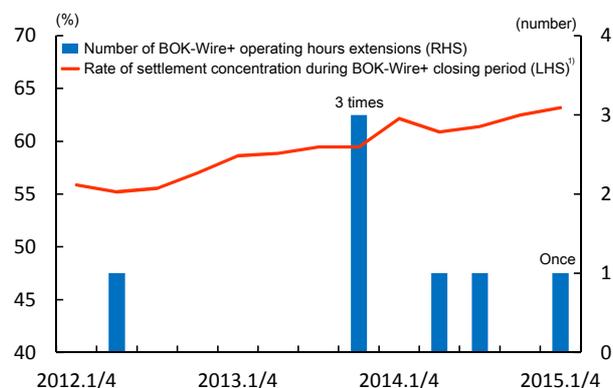
Foreign investor securities fund net inflows¹⁾



Note: 1) Cumulative sums of monthly net inflows since January 2013

Source: The Bank of Korea

Large-value payment system risk indicators



Note: 1) Amount of settlement made at 16:00 and after / Total settlement amount

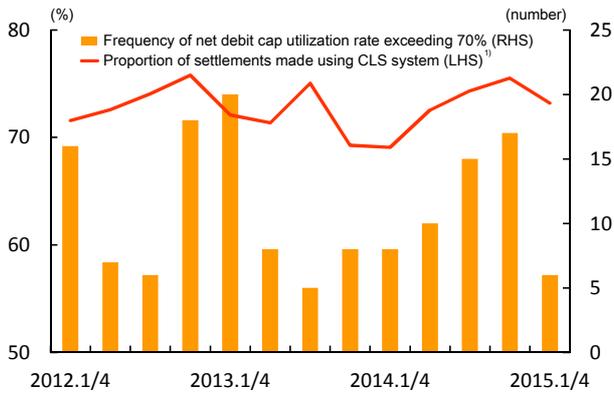
Source: The Bank of Korea

7 Settlement risks in the major payment and settlement systems have been managed stably.

The proportion of settlements carried out between 16:00 and the 17:30 closing time of BOK-Wire+, the large-value payment system, has risen, owing to an increase in intra-institutional RP transactions for example, but since Q4 2014 there has been only one case of BOK-Wire+ operating hours extension owing to reasons such as computer failures.

The retail payment systems operated by the Korea Financial Telecommunications & Clearings Institute have shown trends of stabilization, as the number of cases of participants' net debit cap utilization rates exceeding the 70% warning level has fallen greatly in 2015. The foreign exchange settlement system has also been operated smoothly, with the proportion of total foreign currency settlements carried out via payment-versus-payment through the CLS system maintaining a high level in the 70% range, owing for example to new participation in the system by some branches of foreign banks.

Retail and foreign exchange settlement system risk indicators

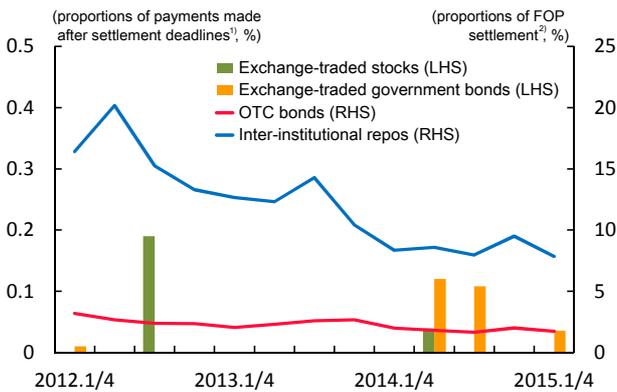


Note: 1) Proportion of total foreign exchange transactions settled through CLS system

Source: The Bank of Korea

The securities settlement systems run by the Korea Exchange and the Korea Securities Depository have been operated stably as well, with a declining percentage of settlement fund payments made after the deadlines in the exchange-traded markets for example.

Securities settlement system risk indicators



Notes: 1) Exchange-traded stocks 16:00, exchange-traded government bonds 17:00

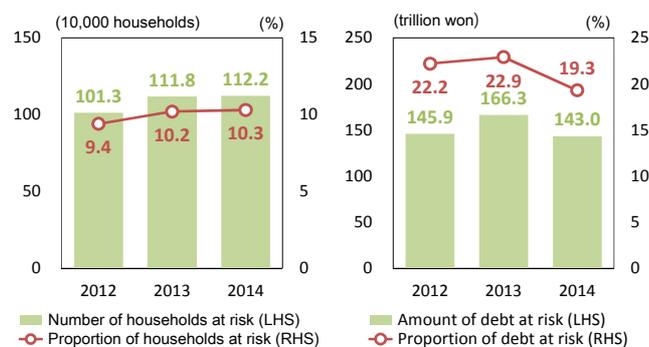
2) Proportions of total OTC bond and inter-institutional repo transaction settlement amounts not settled through securities delivery-versus-payment (DvP) system

Sources: The Bank of Korea, Korea Securities Depository

[Analysis of financial stability issues]

1 The results of an assessment of Korean household sector default risk, based on the Survey of Household Finances and Living Conditions (November 2014), show that the default risks of the vulnerable groups have increased but the effects of household sector defaults on financial institution solvency have diminished. Notably, as the default risk rose in 2014 driven by the vulnerable groups (households with low incomes, low levels of asset holdings, temporary employment, and/or monthly rental living accommodations), which borrow mostly small-value loans, the number of households at risk increased slightly compared to 2013 but the amount of their debts owed (so-called ‘debts at risk’) appear to have fell somewhat.

Trends of households at risk and debts at risk



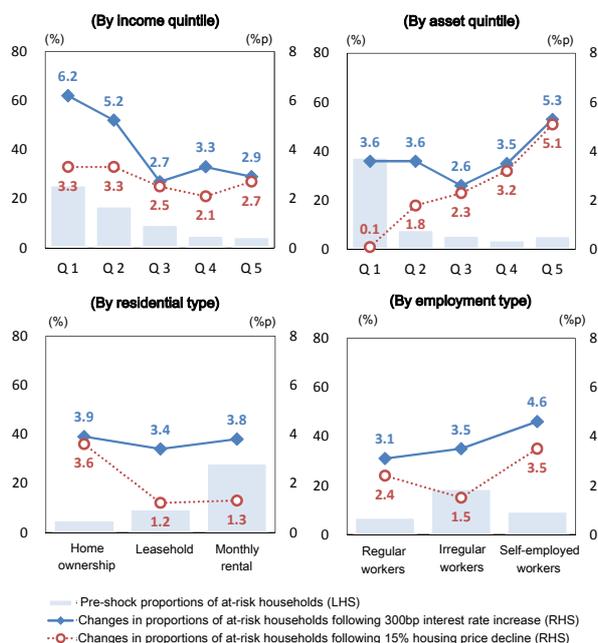
Sources: The Bank of Korea, Statistics Korea
(Survey of Household Finances and Living Conditions)

The results of stress testing⁵⁾ to analyze the effects of macroeconomic shocks on household sector default risk show that, in stress scenarios of interest rate rises and housing price declines, not only do the default risks of the low-income households rise, but those of households holding high levels of assets, self-employed business owners, and households residing in their own homes increase as well. The levels of default risk of both high-income households and households with high asset holdings are low, but their shock absorption capacities appear to vary. While the shock absorption capacities of high-income households are satisfactory, those of households with high asset holdings are in contrast analyzed as relatively vulnerable.

5) Stress testing is a method of analysis that measures the potential vulnerabilities to extreme but plausible events and assesses their effects on macroeconomic and financial stability. But in cases of stress testing of new risk factors that have not been experienced in the past, or of risk factors whose quantitative assessments are difficult, modeling related to matters such as setting the critical thresholds is not easy, and because the possibility of risk occurrence could thus be underestimated a more conservative approach is necessary in setting the scenarios and the model parameters.

These results suggest that, in addition to the macroeconomic analysis of household debt, a detailed monitoring of households' default risks in line with their individual characteristics is also required.

Results of stress testing on household sector

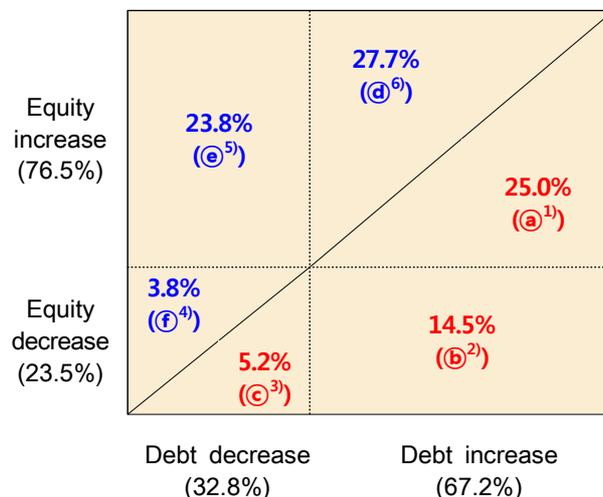


2 Although the slumps in corporate growth and profitability have been continuing recently, firms' financial structure stability has improved as their debt ratios are falling. We examine the background behind this situation by dividing up and analyzing the changes in corporate debt ratios since the global financial crisis, in accordance with the types of changes in the debt and equity involved. We find as a result that

the decline in corporate debt ratios has been led more by increases in equity than by reductions in debt, as the proportion of firms whose equities have increased since the global financial crisis (76.5%) greatly exceeds that of those whose debts have decreased (32.8%).

Proportions of firms, by types of changes in debts and equity

Debt ratio increase (a+b+c)=44.7%
 Debt ratio decrease (d+e+f)=55.3%



- Notes:
- 1) Rate of increase in Debt > Rate of increase in equity
 - 2) Increase in Debt & Decrease in equity
 - 3) Rate of decrease in Debt < Rate of decrease in equity
 - 4) Rate of decrease in Debt > Rate of decrease in equity
 - 5) Decrease in Debt & Increase in equity
 - 6) Rate of increase in Debt < Rate of increase in equity

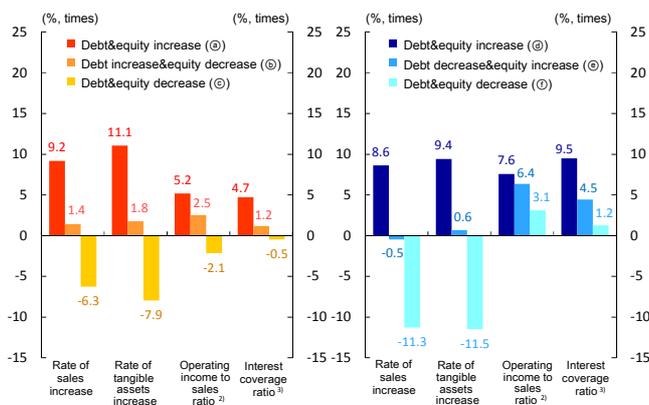
Based on their relative growths and profitabilities, we divide companies up into high- and low-performing ones, and then try to analyze them based on the types of changes seen in their debts and equities. We find on the one hand that the firms at

which both their debts and their equities have risen (㉑ and ㉒) are mainly high-performing ones, while in the same context those that have seen declines in both debt and equity (㉓ and ㉔) are primarily low-performing. And in the case of ㉕-type firms, whose equities have fallen amid increases in their debts, with the proportion of marginal companies among them exceeding 30% it is analyzed that they include many low-performing companies that are continuing to survive through increases in debt.

is not large. There will however be a need to bear in mind the probability of an increasing number of marginal and other firms continuing to survive through expansions in their debts, on the back of the low interest rate conditions since the global crisis.

3 Amid the sustained low interest rate conditions, fund inflows to financial investment products are expanding as investors' search for yield intensifies.

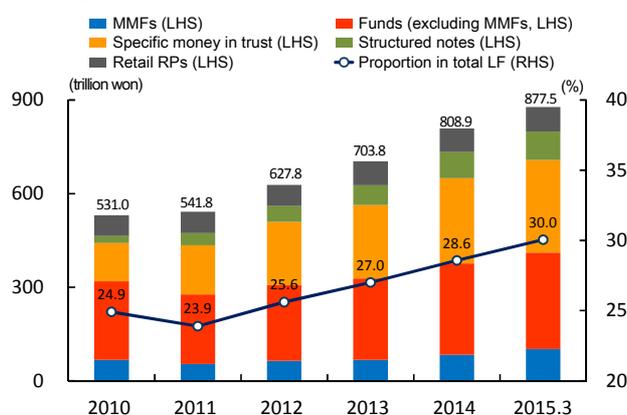
Soundness indicators of firms with increased and decreased debt ratios, by types of changes in debt and equity¹⁾



Notes: 1) 2009~2014 averages
 2) Operating income / Sales
 3) Operating income / Interest expenses
 Source: KIS-Value

The fact that the decline in debt ratios since the global financial crisis has been driven by increases in equity shows that the possibility of a trend of “contraction in corporate borrowings → investment decline”

Major financial investment product amounts



Sources: Korea Financial Investment Association, Korea Securities Depository

The funds flowing into financial investment products are invested again in many products such as stocks, bonds, derivatives, bank deposits, etc., and in this process working as a factor causing the interlinkages among financial institutions to deepen. Securities companies are for example allocating their funds raised

through issuance of structured notes in bank deposits (28.0%), corporate bonds (37.3%), and other products.

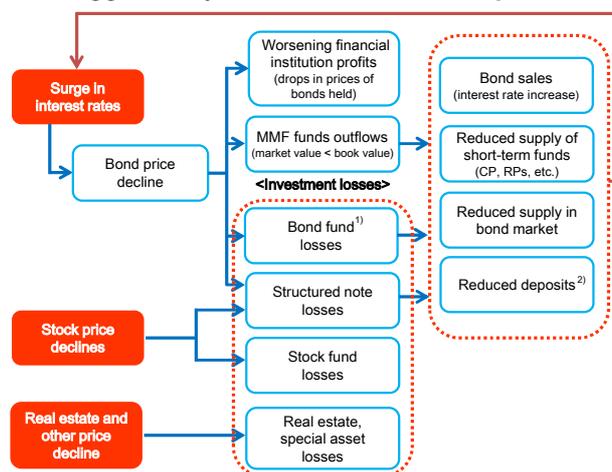
Given all of this, should the uncertainties in the financial markets grow there will be a probability of financial stability deteriorating – on increases not only in investor losses but also in liquidity risks at the financial institution issuers of these products. Especially, in a case where interest rates are rising rapidly the possibility will have to be watched for of the formation of a feedback cycle like that of [bond price declines → investment losses on financial investment products → redemptions of investment funds → acceleration of interest rate increases]. Therefore, while on the one hand the inherent risks and returns of the various financial investment products will have to be accurately identified and managed, monitoring will also have to be strengthened related to financial institutions' funding and asset allocations through financial investment products.

Financial investment product asset management structure¹⁾

	Funds		Structured notes	Specific money in trust	Retail RPs
	MMF	Other ²⁾			
Amounts (trillion won)	83.2	292.8	80.4	201.2	75.6
Proportions (%)					
Deposits, etc. ³⁾	16.4	2.1	28.0	29.4	-
Wholesale funding ⁴⁾	36.0	2.3	-	41.9	-
Treasury bonds ⁵⁾	23.9	11.9	19.7	1.0	46.6
Corporate bonds ⁶⁾	21.6	15.3	37.3	6.4	53.4
Stocks	-	27.6	1.9	1.7	-
Structured notes	-	3.5	-	10.3	-
Derivatives	-	3.1	6.5	-	-
Real estate	-	12.7	-	-	-
Other	2.1	21.5	6.6	9.3	-

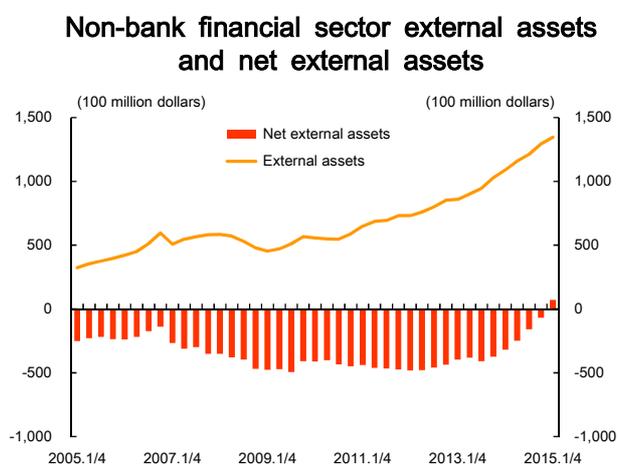
Notes: 1) End-2014 basis
 2) Stock-type, bond-type, mixed-type, etc.
 3) Cash and deposits, due, etc.
 4) RPs, CP, call loans, etc.
 5) Treasury bonds, MSBs, etc.
 6) Financial bonds, corporate bonds, ABS, etc.
 Sources: Financial institutions' business reports, Korea Financial Investment Association, Korea Securities Depository, etc.

Expected channels of systemic risk triggered by financial investment products



Notes: 1) Including same types of specific moneys in trust as the respective fund categories
 2) Considering only the effects occurring in the process of financial investment product fund management

4 On the foundation of Korea's abundant foreign currency liquidity due to its current account surplus, the external assets in debt instruments of the non-bank sector including private enterprises have increased significantly since 2012. Entering 2015, notably, in terms of the balance of its external assets minus its external liabilities, the sector saw a reversal of status to that of a net creditor.



Source: The Bank of Korea

This expansion in overseas investment by the non-bank sector has contributed to foreign exchange market stability, including the easing of exchange rate volatility.

It is necessary to note, however, that the increased overseas investment by the non-bank sector may give rise to potential risks on the sector's balance sheets and in

Korea's foreign currency fund market.

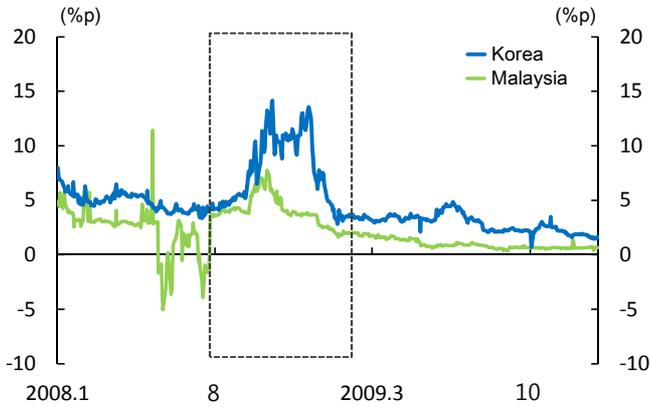
First, the Fed rate hikes and subsequent rises in global interest rates can cause losses on the overseas securities investments by the non-bank sector, especially those in long-term bonds.

Next, the hedging activities in the non-bank sector for purposes of avoiding exchange rate risks in these overseas investments could raise the costs of dollar funding through increased demand for foreign currency especially if the foreign currency funding situation worsens.

Furthermore, investors'⁶⁾ hedging through FX swap and FX forward contracts may result in short-term external debt rising, as it did right before the global financial crisis. In Korea, the contract counterparts tend to enter sell and buy swap positions by borrowing foreign currency funds from the international financial markets.

6) Among institutional investors in Korea, both the National Pension Fund and insurance companies are hedging 100% of their funds invested in international debt securities against foreign exchange risk, while asset management companies are hedging about 80% of their funds operated overseas.

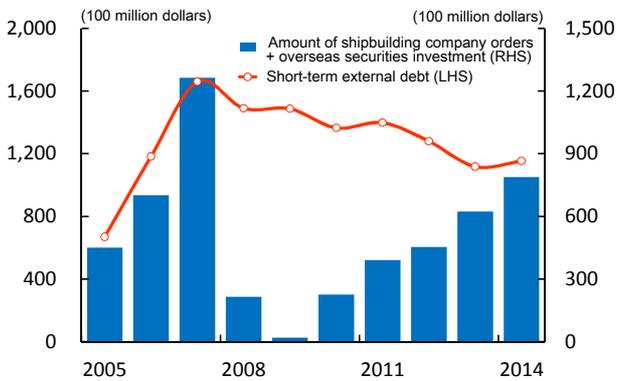
Dollar funding costs¹⁾



Note: 1) Premium that must be paid to secure dollar funds in foreign exchange swap market (dollar funding interest rate inherent in swap rate - Libor)

Source: Bloomberg

Shipbuilding company overseas orders, and residents' overseas securities investment and external debt



Source: The Bank of Korea