Financial System Report

Visual Summary

October 2011

Bank of Japan

Release of the new Financial System Report

- The Bank of Japan has decided to integrate the *Financial System Report* and the *Financial Markets Report* and publish the new *Financial System Report*. The new *Report* assesses the financial system stability while bearing in mind the greater importance of the macroprudential perspective.

- The enhanced contents of the new *Report* are as follows.

  i. As regards assessing the robustness of the financial system, macro stress testing is developed by assuming multiple scenarios in which stress occurs in the real economy and financial markets.

  ii. A feedback loop between the real economy and the financial system is better analyzed and assessed by using the newly developed Financial Macroeconometric Model.

  iii. From a cross-sectional dimension of the financial system, various risks are examined at insurance companies and other nonbank financial institutions, which are closely associated with banks.

  iv. New indicators of macro financial risk are included to assess an accumulation of financial imbalances from different perspectives.

  v. Analysis of risks observed in financial markets is enhanced in view of the influences of financial markets on Japan's financial system.

Contents

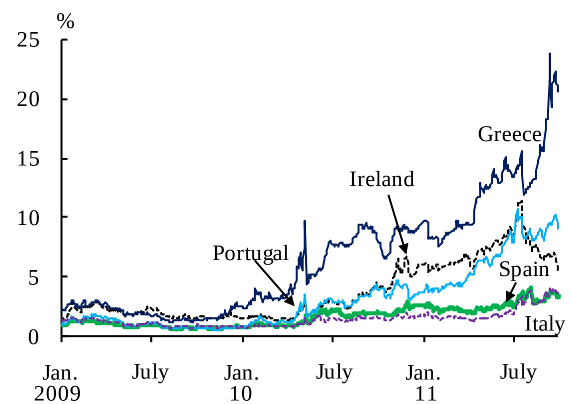
Assessment of the current state

- Japan's financial system as a whole has been maintaining stability since the disaster.
  - ✓ Macro risk indicators have not confirmed an accumulation of financial imbalances.
  - ✓ Risks borne by banks and other financial institutions have generally been restrained relative to capital.
- However, global financial markets remain nervous. The following points warrant attention.
  - ✓ Domestic financial markets are slightly nervous given high correlations between domestic and overseas financial markets. Changes in overseas government bond markets or stock markets could spread instantaneously to domestic markets and cause banks' realized gains/losses on domestic securities holdings to deteriorate significantly.
  - ✓ Although financial institutions' credit costs have decreased as a whole, the quality of bank loans has not improved.
  - ✓ In macro stress testing, even if a severe stress arises in the external environment, banks' capital bases as a whole are estimated to avoid significant impairment. Nevertheless, capital adequacy ratios are likely to remain low at banks with relatively low profitability and weak capital bases.

Sovereign debt problems in peripheral European countries

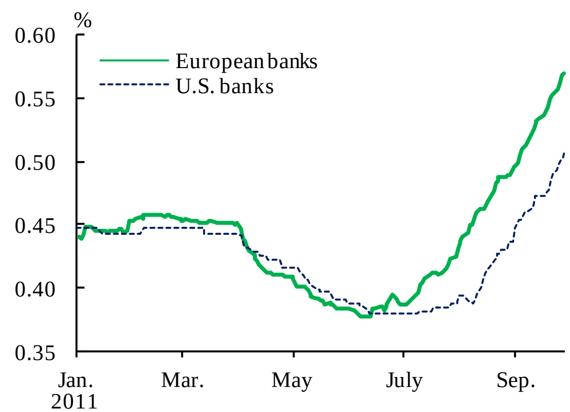
- In Europe, a series of sovereign debt problems have surfaced across peripheral countries since end-2009 and have led to a deterioration in banks' funding conditions.
  - ➢ As concern over counterparty risk has heightened, market funding rates have remained at high levels.
  - ➢ Deterioration in funding conditions has also influenced banks' lending.

Chart II-1-3: Government bond yields[1]



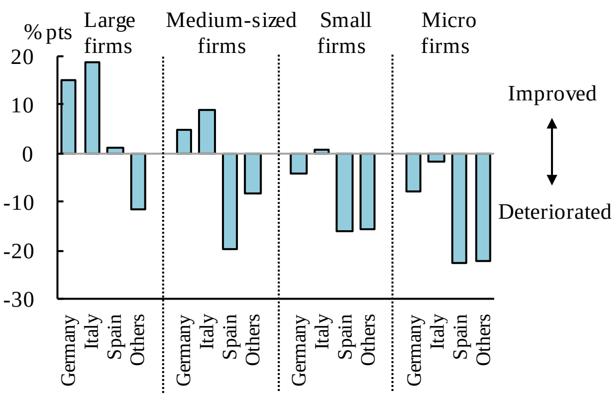
Note: *1*. 10-year spreads over German bund yield.
Source: Bloomberg.

Chart B1-2: U.S. dollar Libor by bank[1]



Note: *1*. Simple averages of 6-month U.S. dollar Libor.
Source: Bloomberg.

Chart II-1-5: Lending attitudes of European banks[1]

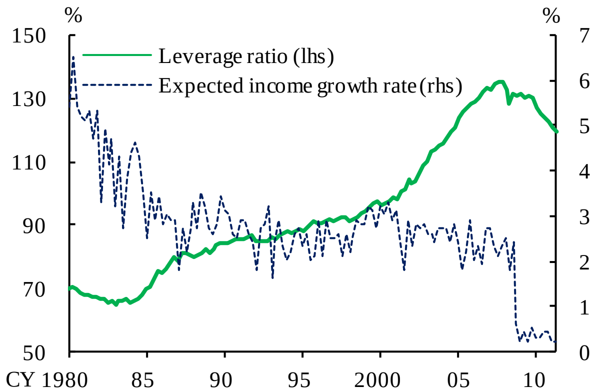


Note: *1*. Banks' lending attitudes evaluated by firms in the euro area. The survey is conducted during the period from February to March 2011.
Source: ECB, "Survey on the access to finance of SMEs in the euro area."

U.S. balance-sheet adjustments and developments in emerging economies

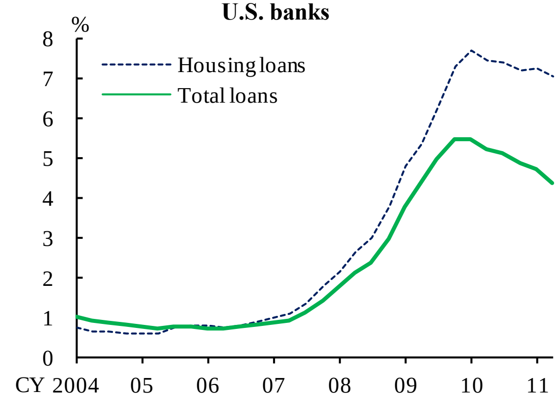
- In the United States, as households are still in the process of balance-sheet adjustments, the economy is tending to deviate downward. The ratio of nonperforming housing loans remains high even in 2011. Housing prices remain under strong downward pressure.
  - ➢ Households seem not to have overcome a sense of excessive debt relative to future income because of significant decline in the expected growth rate of their income.
- In emerging economies, the economic growth rate has recently slowed somewhat, although strong signs of overheating are still observed in the real estate market amid accommodative financial conditions.

Chart II-1-7: Leverage ratio of U.S. households[1]



Note: *1*. Leverage ratio is a ratio of debt outstanding to disposable income.
Sources: BEA, "National economic accounts"; FRB, "Flow of funds accounts of the United States"; Thomson Reuters.

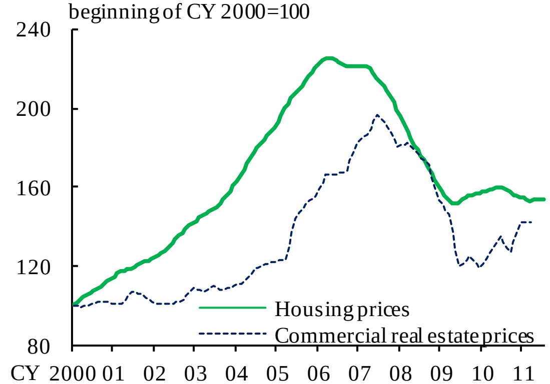
Chart II-1-10: Nonperforming-loan ratios at U.S. banks



Source: FDIC.

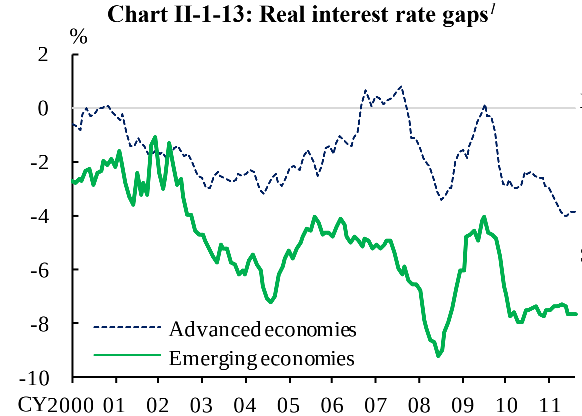
Chart II-1-8: U.S. real estate prices

beginning of CY 2000=100



Sources: MIT Center for Real Estate, "Transactions based index"; S&P, "S&P/Case-Shiller home price indices."

Chart II-1-13: Real interest rate gaps[1]

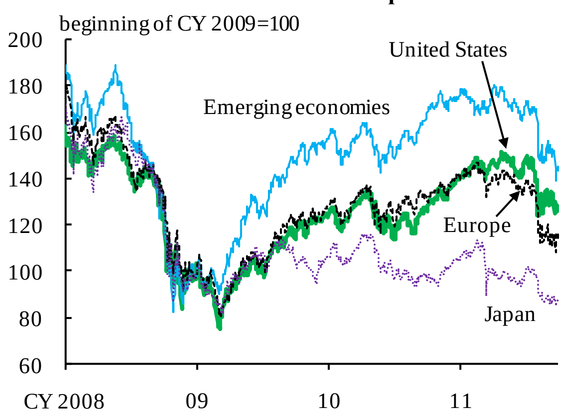


Note: *1*. Deviation of short-term real interest rates from potential economic growth rates (estimated by the HP filter). The latest data are as of August 2011.
Sources: Bloomberg; CEIC; IMF, "International financial statistics," "World economic outlook"; Ministry of Internal Affairs and Communications.

Correlations between domestic and overseas financial markets

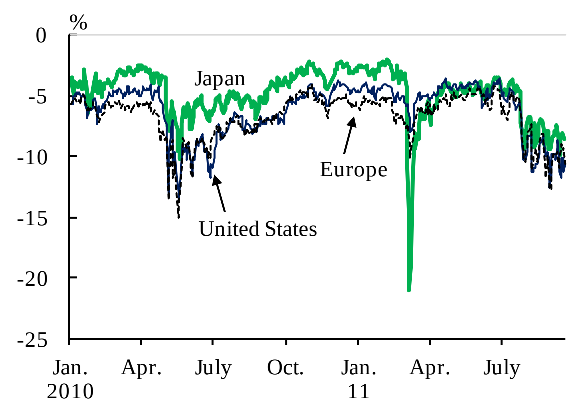
- Global financial markets remain nervous.
- Given the high correlations between domestic and overseas financial markets, domestic stock prices are susceptible to overseas market developments. Government bond yields have comoved across advanced economies. There is the possibility that changes in overseas markets will affect Japan.
  - ➢ Risk reversals of stock prices have shown similar developments among Japan, the U.S., and Europe.
  - ➢ Concern over the risk of a yield rise has not increased even though sovereign debt problems surfaced in Europe and Japan's sovereign debt rating was downgraded.

Chart II-1-1: Global stock prices[1]



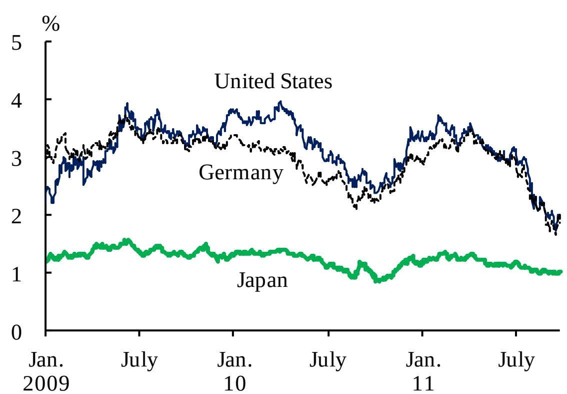
Note: *1*. United States: S&P 500, Emerging economies: MSCI Emerging, Europe: EuroSTOXX 600, Japan: TOPIX.
Source: Bloomberg.

Chart IV-2-3: Risk reversals of stock prices[1]



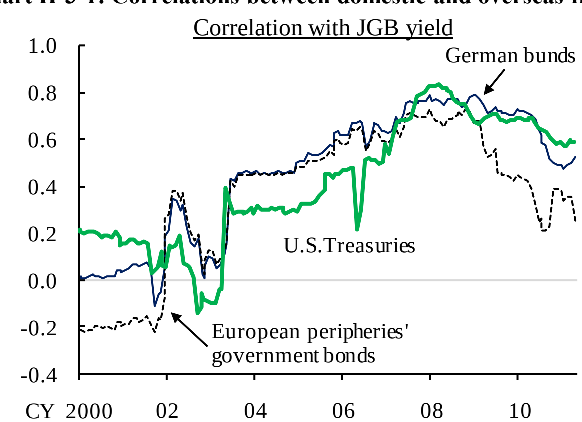
Note: *1*. Nikkei 225 options for Japan; S&P 500 options for the United States; EuroSTOXX 50 options for Europe.
Sources: Bloomberg; BOJ calculations.

Chart IV-2-1: Global long-term yields[1]



Note: *1*.10-year yields on government bonds.
Source: Bloomberg.

Chart II-3-1: Correlations between domestic and overseas financial markets[1]

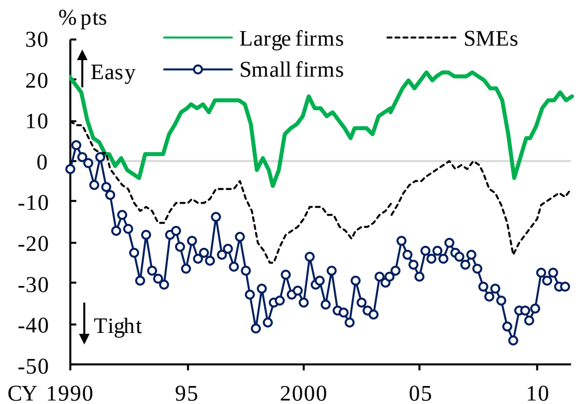


Note: *1*. The vertical axis indicates correlation coefficients of monthly returns during a 3-year rolling window.
Source: Bloomberg.

Financial conditions of firms and households

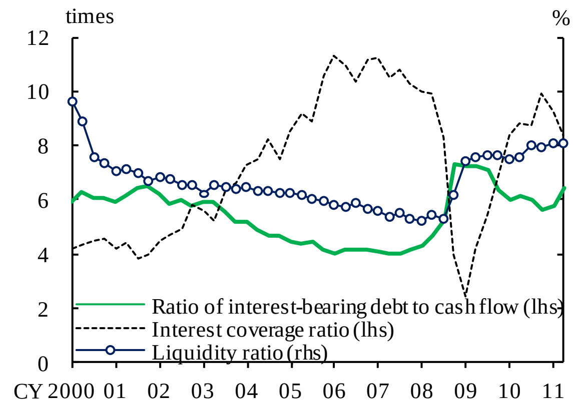
- Firms' funding conditions generally remain on an improving trend even after the disaster.
  - ➢ Behind this stability lies the fact that firms have been taking a cautious stance in financing, and maintaining a high level of on-hand liquidity.
- However, some small and medium-sized firms and households have continued to face severe financial conditions.

Chart II-2-1: DIs of financial positions[1]



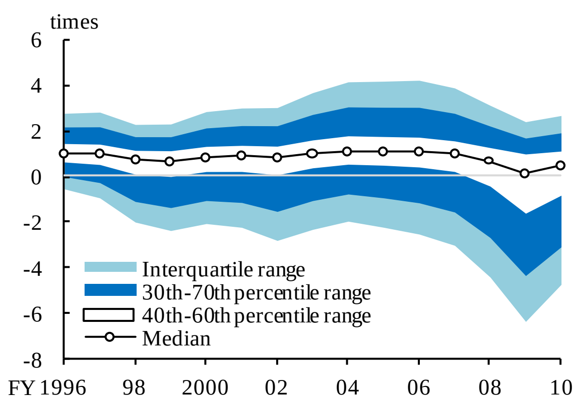
Note: *1*. "SMEs" stands for small and medium-sized enterprises.
Sources: Japan Finance Corporation, "Quarterly survey of small businesses in Japan"; BOJ, "*Tankan*."

Chart II-2-2: Large firms' debt servicing capacity



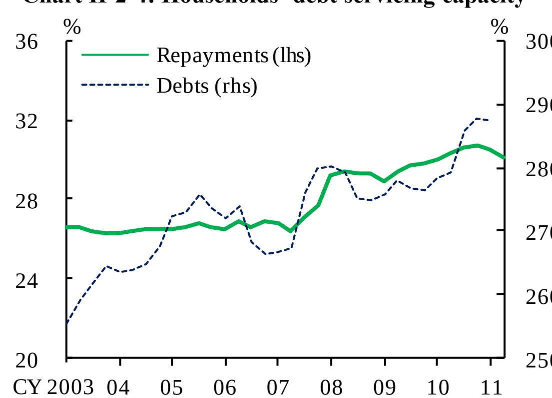
Source: Ministry of Finance, "Financial statements statistics of corporations by industry, quarterly."

Chart II-2-3: SMEs' interest coverage ratio[1]



Note: *1*. "SMEs" stands for small and medium-sized enterprises.
Source: CRD.

Chart II-2-4: Households' debt servicing capacity[1,2]

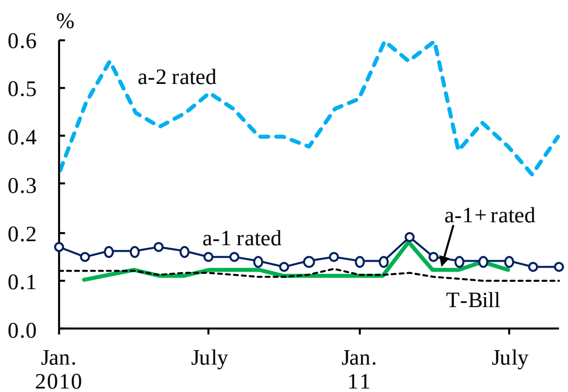


Notes: *1*. Ratios to disposable income. 4-month moving averages.
2. Households with housing loans are counted.
Source: Ministry of Internal Affairs and Communications, "Family income and expenditure survey."

Financial market conditions and loan market conditions

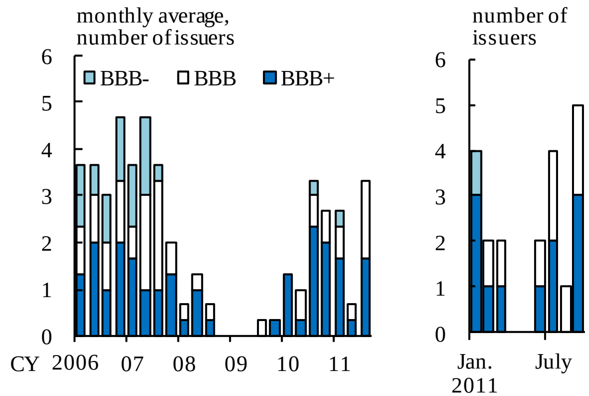
- Financial conditions of firms and households have generally continued to ease.
  - Issuing conditions for CP remain favorable in spite of the disaster.
  - In corporate bond markets, there has been an increased variety of issuers. Issuing conditions remain favorable in Japan, despite the rises in credit spreads in the U.S. and Europe.
  - In loan market, banks' lending attitudes have been positive.

Chart III-2-1: CP issuance rates[1,2]



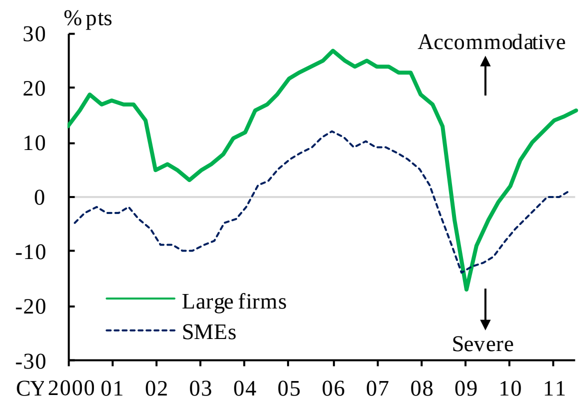
Notes: *1*. Monthly average 3-month rates weighted by issuance volume.
2. The latest data are as of September 2011.
Sources: Japan Securities Depository Center; Japan Bond Trading.

Chart III-2-3: Number of issuers of BBB-rated corporate bonds[1,2]



Notes: *1*. Bonds issued by banks and railway companies, and those sold to individual investors are excluded.
2. The latest data are as of September 2011.
Sources: Capital Eye; I-N Information Systems.

Chart III-3-3: DIs of lending attitudes of financial institutions[1]

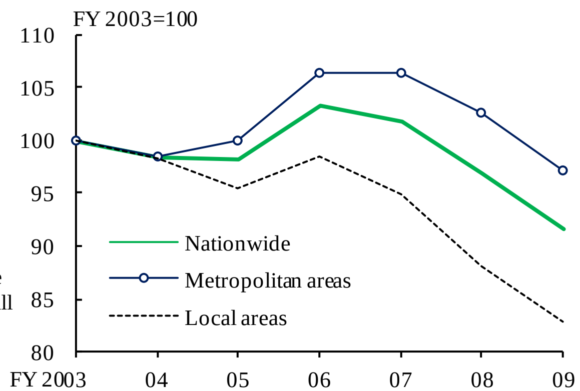


Note: *1*. "SMEs" stands for small and medium-sized enterprises.
Source: BOJ, "*Tankan*."

Intensified lending competition and a decline in loan rates

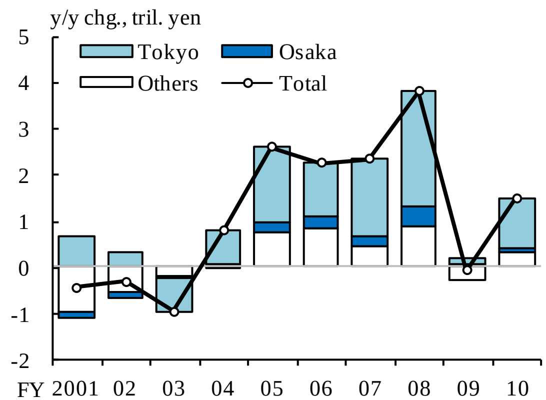
- Since business conditions of firms in local areas are relatively severe, borrowing demand of small and medium-sized firms has become sluggish. The regional banks therefore are increasing loans to large firms in metropolitan areas.
- Banks' efforts to maintain an amount of loans have set off a decline in domestic loan rates through intensified lending competition.

Chart III-3-8: Sales at small and medium-sized firms[1]



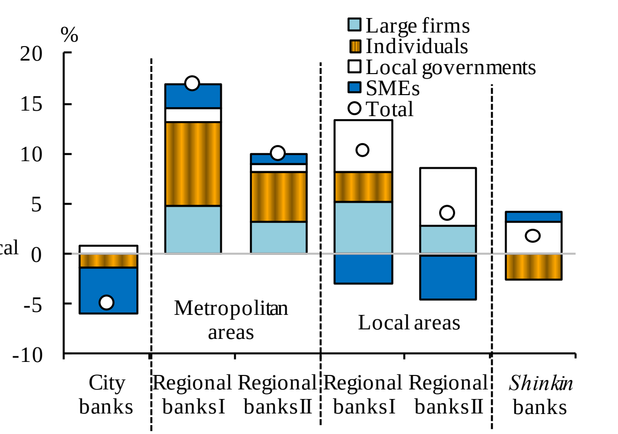
Note: *1*. Metropolitan areas consist of the south Kanto, Tokai, and Kinki regions.
Source: Small and Medium Enterprise Agency, "Basic survey on small and medium enterprises."

Chart III-3-7: The regional banks' loans outside their home prefectures



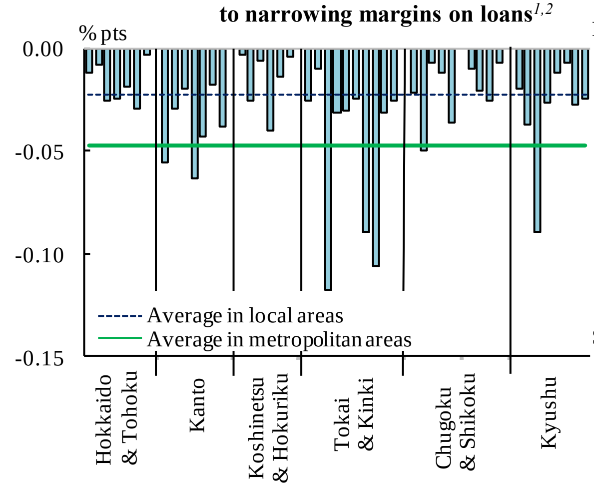
Source: BOJ, "Deposits, loans and bills discounted by prefecture (domestically licensed banks)."

Chart III-3-9: Loans outstanding by type and region[1,2]



Notes: *1*. Changes from the end of fiscal 2005 to that of fiscal 2010.
2. See Note in Chart III-3-8.
Source: BOJ, "Loans and bills discounted by sector."

Chart III-3-12: Contribution of lending competition to narrowing margins on loans[1,2]

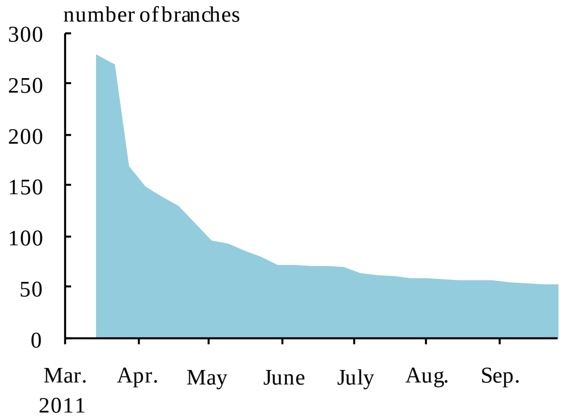


Notes: *1*. The bar graph shows estimated contribution of the competition factor (changes in each bank share) to a decline in interest rate margins on loans in the last 5 years averaged by prefecture. The horizontal lines indicate average contribution by region. The regional banks are counted.
2. See Note in Chart III-3-8.
Source: BOJ calculations.

Financial intermediation in the disaster areas

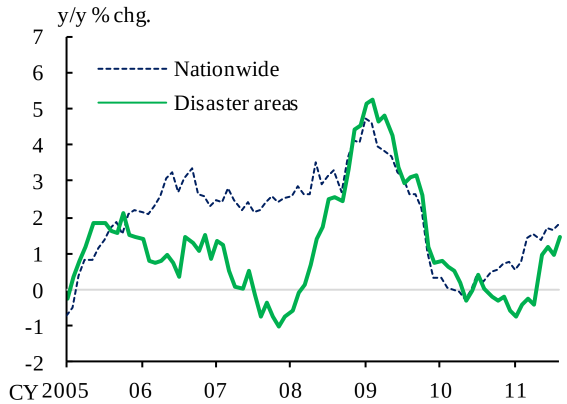
- Financial institutions in the disaster areas suffered serious damage, with many of their branches going out of service.
- Notwithstanding, they set up temporary branches and cooperated with financial institutions in other areas, thereby continuing to meet depositors' demand for cash.
- They have also been providing funds to meet borrowing demand under public guarantee associated with the disaster.
  - In the three prefectures (Iwate, Miyagi, and Fukushima) that suffered the most severe damage, bank loans have recently been growing particularly to meet firms' demand for working capital.

Chart B2-1: Number of closed bank branches in the disaster areas[1]



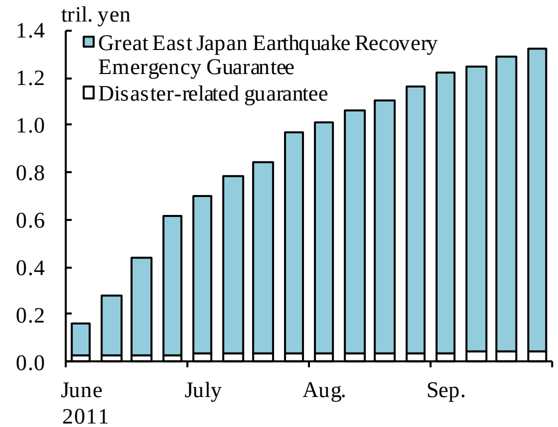
Note: 1. Financial institutions with headquarters in the 6 prefectures of the Tohoku region and Ibaraki Prefecture are counted (total number of headquarters and branches is about 2,700).
Source: Financial Services Agency.

Chart III-3-2: Loans outstanding of the regional banks[1]



Note: 1. "Disaster areas" indicates loans outstanding of the regional banks with headquarters in the 3 severely damaged prefectures.
Source: BOJ, "Deposits, loans and bills discounted by prefecture (domestically licensed banks)."

Chart III-3-1: Public guarantee associated with the disaster[1]

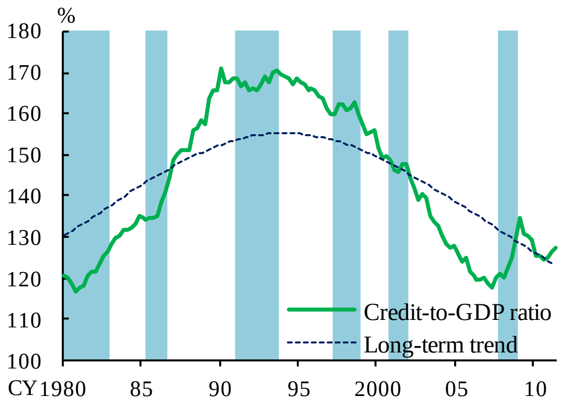


Note: 1. Cumulative volume of guarantee accepted.
Source: Small and Medium Enterprise Agency.

Risks implied by macro risk indicators

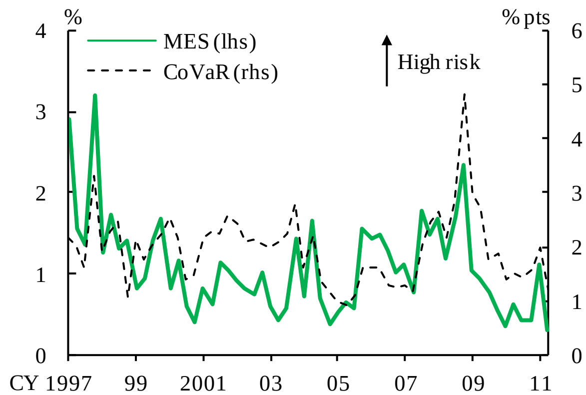
- Macro risk indicators do not provide any solid evidence of accumulating financial imbalances.
  - ➢ The ratio of total credit to GDP continues to hover around the long-term trend.
  - ➢ Indicators of financial systemic risk remain at lower levels. There is no sign of systemic risk recognition growing in stock markets.
  - ➢ Both leading and lagging indexes of the Financial Cycle Indexes have been positive, and neither shows a sign of instability in the financial system.

Chart IV-1-1: Total credit-to-GDP ratio[1]



Note: *1*. Shaded areas indicate recession periods.
Sources: Cabinet Office, "National accounts"; BOJ, "Flow of funds accounts."

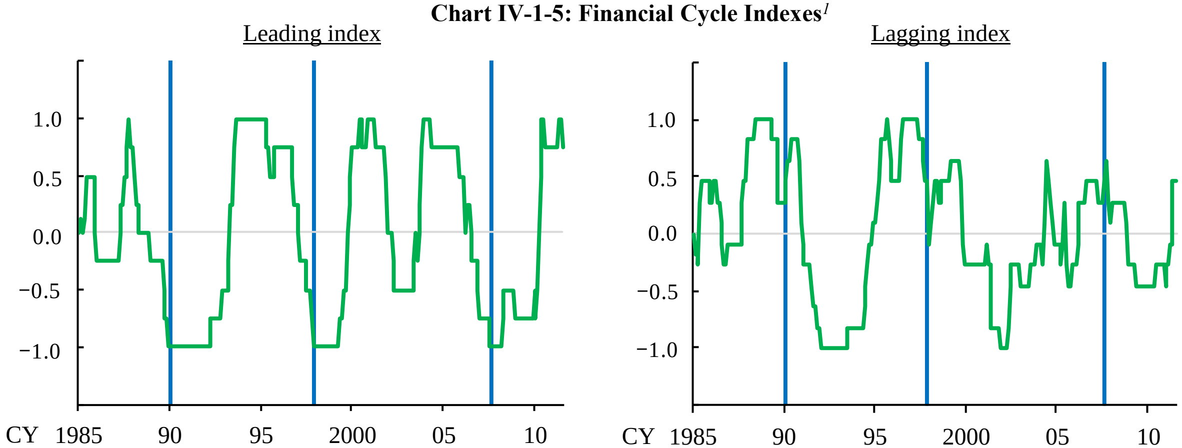
Chart IV-1-4: Systemic risk indicators[1]



Note: *1*. Listed banks and major securities companies are counted. Ratios to Tier I capital.
Source: BOJ calculations.

- CoVaR shows changes in VaR of aggregate financial stocks if stock prices of a financial institution plunge. As CoVaR becomes larger, the markets recognize that the stress occurred at individual financial institutions could widely spread to the entire financial sector.
- MES shows expected losses at individual financial institutions if VaR of aggregate financial stocks exceeds a threshold. As MES becomes larger, the markets recognize that adverse effects from the stress occurred in the financial sector on individual financial institutions' corporate value could also become larger.

Chart IV-1-5: Financial Cycle Indexes[1]



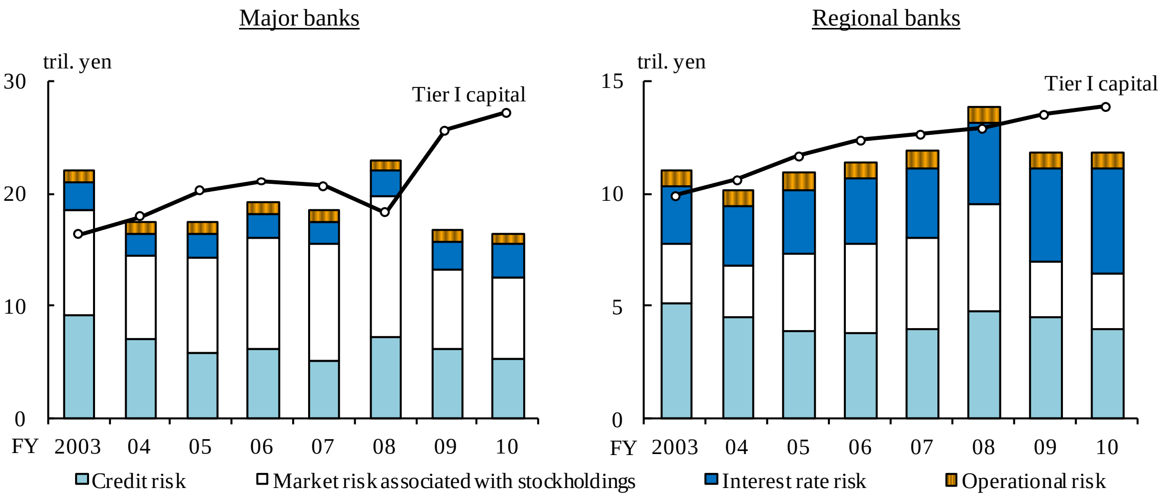
- A change in the leading index from a positive figure to a negative one indicates that the financial system may become unstable in the near future.
- The same movement in the lagging index indicates that the financial system might have already become unstable.

Note: *1*. The left, middle, and right vertical lines indicate the collapse of Japan's asset price bubble, the default of Sanyo Securities, and the outbreak of the U.S. subprime problem, respectively.
Source: BOJ calculations.

Risks and Tier I capital

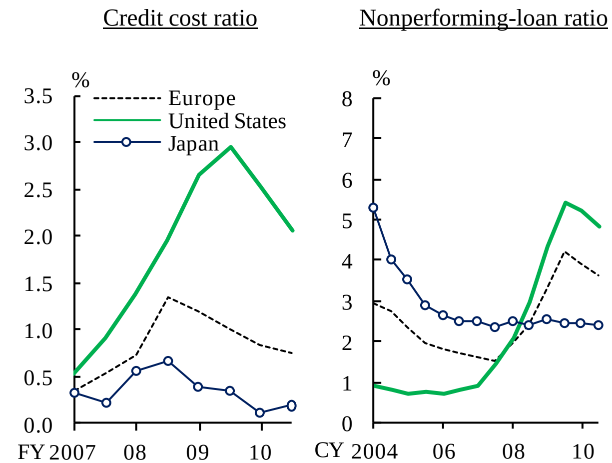
- Risks borne by banks and other financial institutions have generally been restrained relative to capital.
  - ➢ Banks' capital bases have been steadily reinforced through accumulated retained earnings.
  - ➢ The credit cost ratio and the NPL ratio of Japan's banks remained low compared with those of U.S. and European banks.

Chart IV-3-1: Risks and Tier I capital[1]



Note: *1*. Credit risk: unexpected loss with a 99 percent confidence level. Market risk associated with stockholdings: value-at-risk with a 99 percent confidence level and 1-year holding. Interest rate risk: 100 basis point value. Operational risk: 15 percent of gross profits.
Source: BOJ.

Chart IV-3-2: Credit risk indicators[1,2]

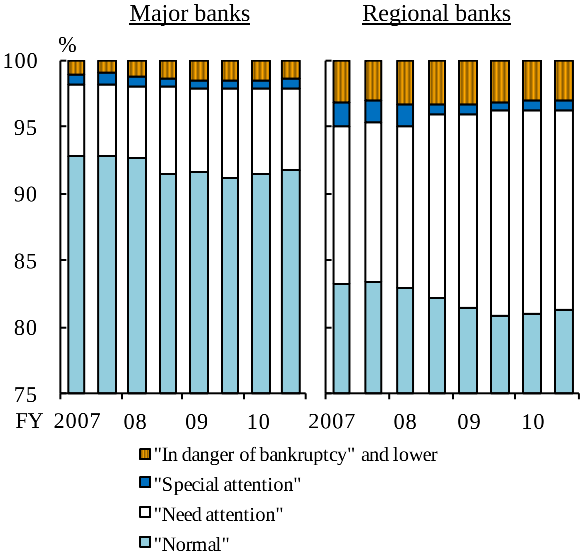


Notes: *1*. Left chart: net write-off for the United States, and credit costs of major banks for Europe.
2. Right chart: ratios for Japan are counted in March and September; those for the United States are in June and December; and those for Europe are each December (the latest data are as of June).
Sources: ECB, "Consolidated banking data," "EU banking sector stability"; FDIC; BOJ.

Credit risk on loans extended to small and medium-sized firms

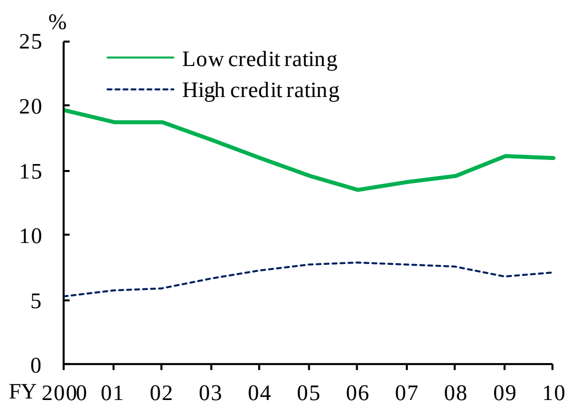
- The decline in the ratio of "normal" loans and the increase in the ratio of "need attention" loans -- trends that had continued since FY2008 -- came to a halt in FY2010.
- Nevertheless, there is a possibility that the quality of bank loans extended to some small and medium-sized firms is declining.
  - ➢ The share of bank loans to firms with low creditworthiness has been rising. The rate at which borrowing firms are upgraded has remained at a lower level than before.
- Financial institutions need to contain credit risk by supporting borrowing firms' swift formulation and implementation of reconstruction programs.

Chart IV-3-3: Loans outstanding by borrower classification



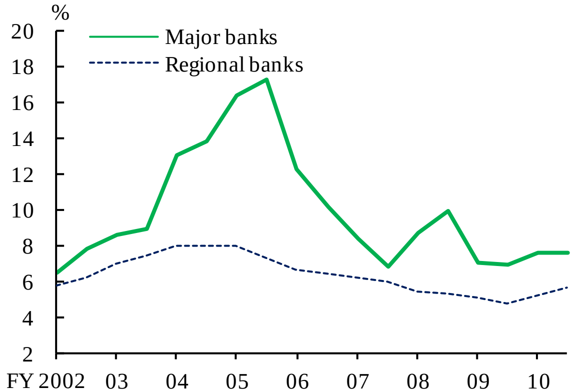
Source: BOJ.

Chart IV-3-4: Share of bank loans to SMEs by credit rating[1,2]



Notes: *1*. "SMEs" stands for small and medium-sized enterprises.
2. "High credit rating" and "low credit rating" stand for the highest 3 and lowest 3 categories among 10 classified categories based on the credit ratings, respectively.
Source: CRD.

Chart IV-3-5: Rate of borrowing firms being upgraded from "need attention"

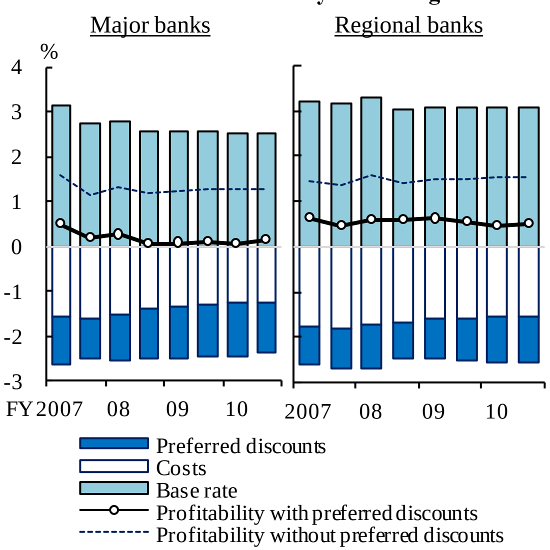


Source: BOJ.

Credit risk on housing loans and consumer financing

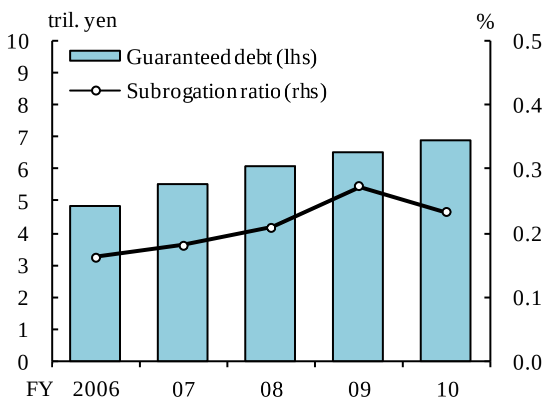
- Credit costs from housing loans are limited at present, partly due to policy measures.
  - ➢ Intensifying lending competition among banks has caused decreases in the profitability of housing loans.
  - ➢ In the severe employment and income situation, households' debt servicing capacity is gradually deteriorating.
- Profits of consumer finance companies have been sluggish, and their NPL ratio has been on an increasing trend.

Chart IV-3-7: Profitability of housing loans[1,2]



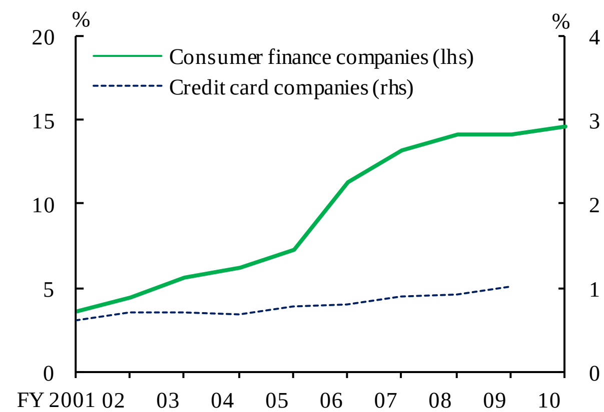
Notes: *1*. Profitability at the time of origination.
2. Costs are the sum of funding rate, premium of group credit life insurance (assumed to be 0.3 percent), and general expense rate (assumed to be the same as that for the whole business).
Sources: Japan Financial News, "Nikkin report"; Japan Housing Finance Agency, "Survey of private mortgage loans"; Ministry of Land, Infrastructure, Transport and Tourism, "Survey of true state of private mortgage loans"; BOJ.

Chart IV-3-6: Subrogation ratio on housing loans



Source: Zenkoku Hosho.

Chart IV-4-12: Nonperforming-loan ratios[1,2]

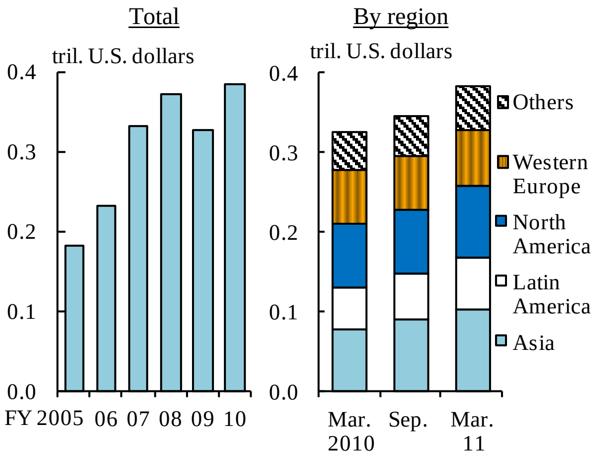


Notes: *1*. The 3 major companies are counted for consumer finance companies.
2. Nonperforming loans of credit card companies are loans delinquent for 6 months or more.
Sources: Published accounts of consumer finance companies; Japan Consumer Credit Association, "Consumer credit statistics of Japan."

Credit risk on overseas loans

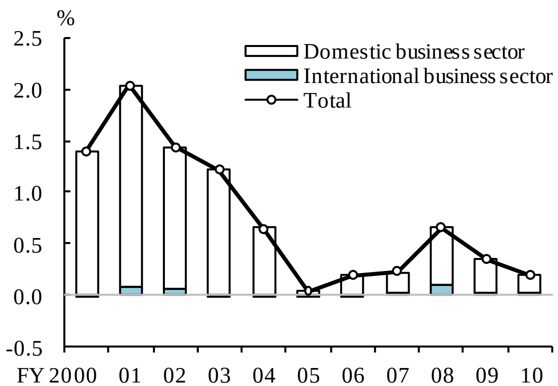
- Credit costs from overseas loans have affected the entire credit costs only marginally to date.
  - ➢ In order to maintain an amount of loans, the major banks are increasing overseas loans. In addition to the rise in loans to emerging economies such as Asia, loans to the U.S. have been growing recently.
  - ➢ NPLs to Europe and the Middle East, where uncertainty over financial and economic conditions has heightened, have been relatively large.

Chart III-3-6: Overseas loans of the major banks[1]



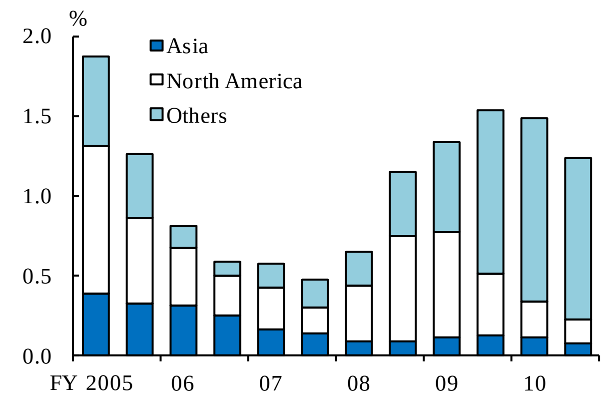
Note: *1*. The 3 major financial groups are counted on a non-consolidated basis.
Sources: Bloomberg; published accounts of each group.

Chart IV-3-8: Credit cost ratios by sector[1]



Note: *1*. The major banks and the regional banks are counted.
Source: BOJ.

Chart IV-3-9: Ratios of nonperforming overseas loans[1]

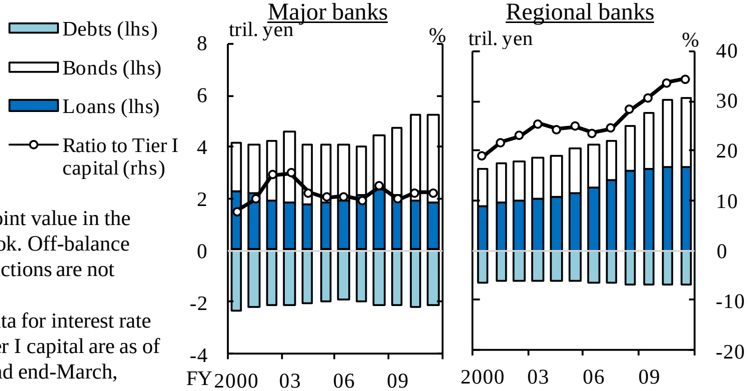


Note: *1*. The 3 major financial groups are counted on a non-consolidated basis.
Source: Published accounts of each group.

Market risk borne by banks and life insurance companies

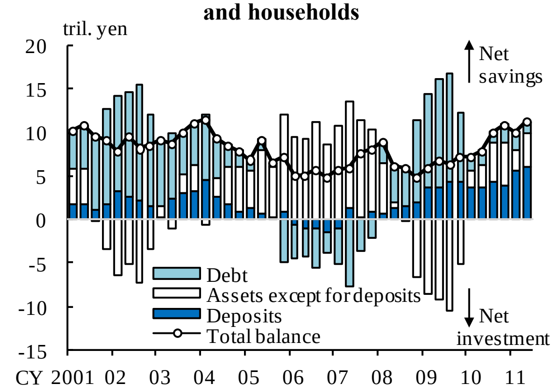
- Banks have been taking on additional interest rate risk mainly through bond investment. The regional banks have invested even more in long-term bonds.
  - Since growth in bank loans has been sluggish, the inflows of deposits have consequently induced banks to invest more in bonds, particularly JGBs.
- Banks and life insurers continue to hold a high level of market risk associated with their stockholdings and have gradually increased investment in JGBs and foreign bonds. Their business conditions have become susceptible to developments in overseas financial markets both directly and indirectly.
  - The pace of reduction in banks' market risk associated with stockholdings has been slower than planned, partly due to the sluggish stock prices.

Chart IV-3-10: Interest rate risk (100 bpv)[1,2]



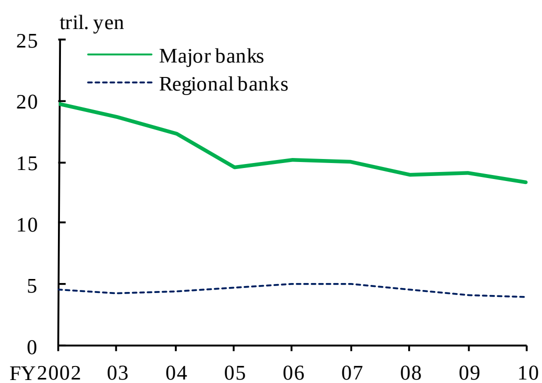
Notes: *1*. 100 basis point value in the banking book. Off-balance sheet transactions are not included.
2. The latest data for interest rate risk and Tier I capital are as of end-June and end-March, respectively.
Source: BOJ.

Chart IV-3-11: Investment-saving balance of firms and households



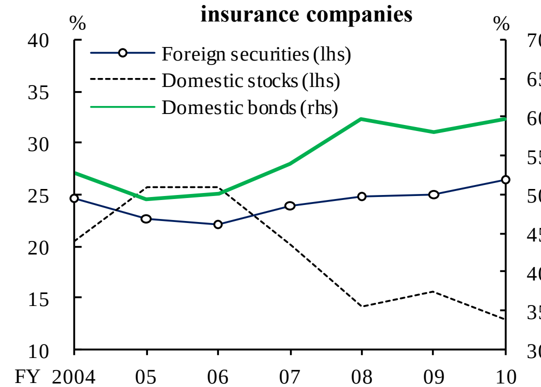
Source: BOJ, "Flow of funds accounts."

Chart IV-3-17: Stockholdings[1]



Note: *1*. On an acquisition price basis.
Source: BOJ.

Chart IV-4-4: Share of securities held by life insurance companies

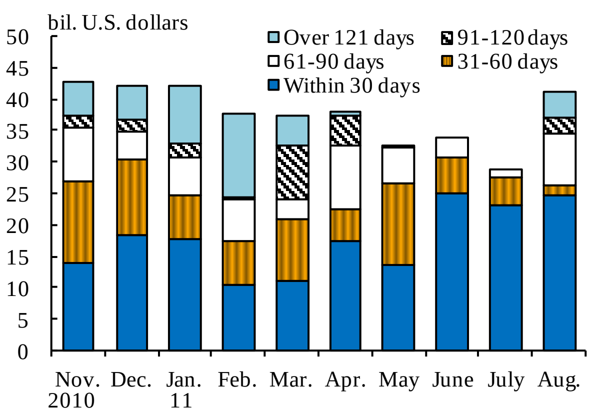


Source: Published accounts of life insurance companies.

Funding liquidity risk borne by banks and securities companies

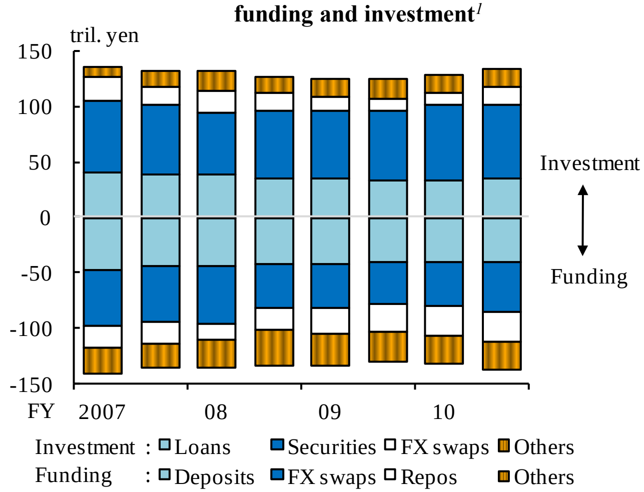
- Funding liquidity risk of Japan's banks, including risk for foreign currencies, has been restrained although European banks' funding conditions are deteriorating.
  - ➢ Foreign currency funding of Japan's banks depends on market funding through FX swaps and repos. They should continue to rigorously manage funding liquidity risk for foreign currencies.
- Securities companies have maintained their leverage ratio almost flat. There is no noticeable problem with regard to their funding.

Chart IV-3-22: U.S. MMFs' assets under management by remaining maturity[1]



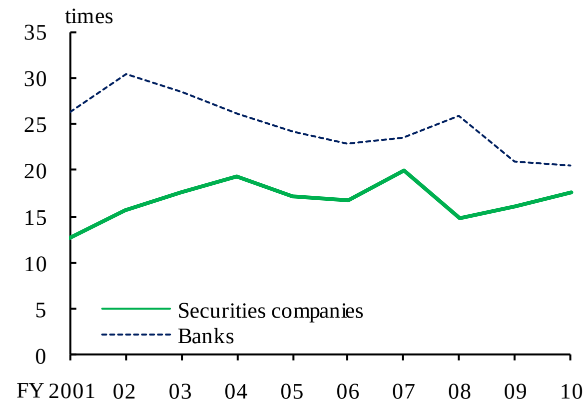
Note: *1*. U.S. major MMFs' investment in Japan's financial institutions.
Source: Published accounts of MMFs.

Chart IV-3-21: Composition of foreign currency funding and investment[1]



Note: *1*. International operations of the major banks, the regional banks, and central organizations for financial cooperatives.
Source: BOJ.

Chart IV-4-6: Leverage ratios[1]

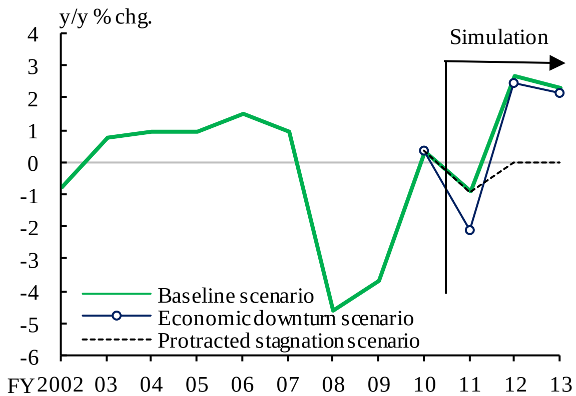


Note: *1*. Figures for securities companies are ratios of total assets to net assets. Figures for banks (the major banks and the regional banks are counted) are ratios of total assets to Tier I capital.
Sources: Japan Securities Dealers Association, "Composite balance sheet of securities firms and number of customer accounts, etc."; BOJ.

Robustness against macroeconomic shocks

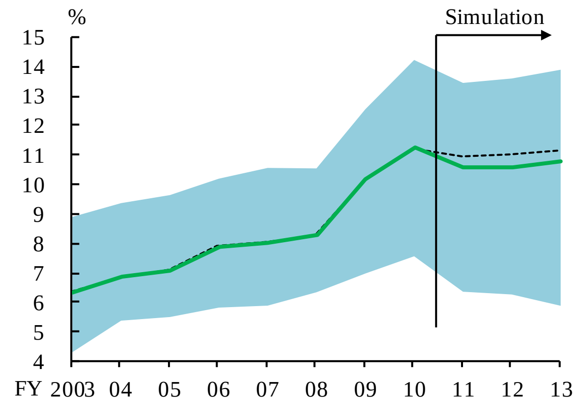
- Considerable economic downturn with a plunge in stock prices: Banks' capital bases as a whole would be able to avoid significant impairment. Nevertheless, capital adequacy ratios are likely to remain low at banks with relatively low profitability and weak capital bases.
- Protracted stagnation: Banks' credit costs could exceed their profits for some years. This applies especially to banks with relatively low-quality loans.

Chart V-1-1: Nominal GDP growth under the scenarios



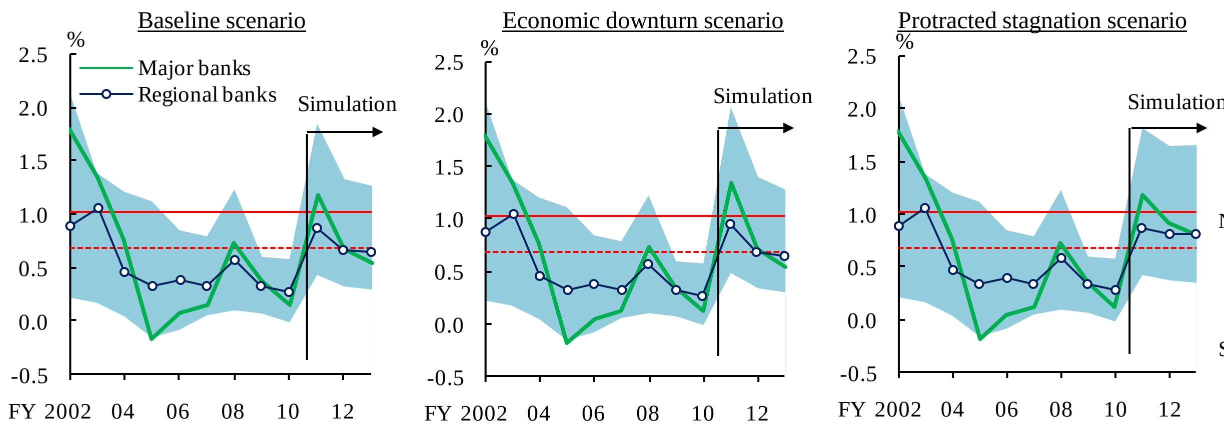
Sources: Economic Planning Association, "ESP forecasts"; Cabinet Office, "National accounts."

Chart V-1-3: Tier I capital ratios[1,2,3]



Notes: *1*. The major banks and the regional banks are counted.
2. Simulation results under the economic downturn scenario. Shaded area indicates the 10th-90th percentile range measured by each bank's share of loans.
3. The dashed line indicates the result under the baseline scenario.
Source: BOJ calculations.

Chart V-1-2: Credit cost ratios[1]

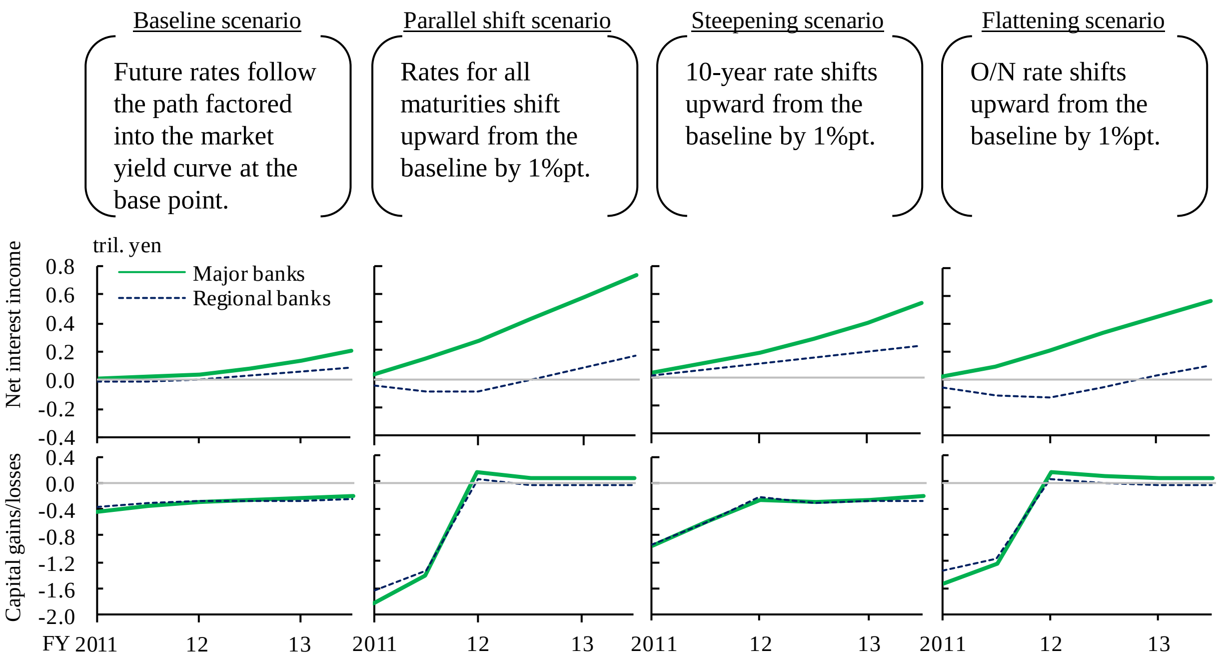


Note: *1*. Shaded areas indicate the 10th-90th percentile range. The horizontal lines indicate the break-even points of the major banks (solid line) and the regional banks (dashed line) in fiscal 2010.
Source: BOJ calculations.

Robustness against a rise in interest rates (1)

- The effects of a rise in interest rates on unrealized gains/losses on bondholdings have become more pronounced as both the major banks and the regional banks have increased their bondholdings.
  - Under the parallel shift scenario, after taking profits into account, the Tier I capital ratio would decline only by 0.3%pt at the major banks and by as large as 0.8%pt at the regional banks.
  - The regional banks are susceptible to a rise in interest rates as they bear a large amount of interest rate risk relative to their capital.

Chart V-2-2: Net interest income and capital gains/losses on bondholdings at the market price[1]

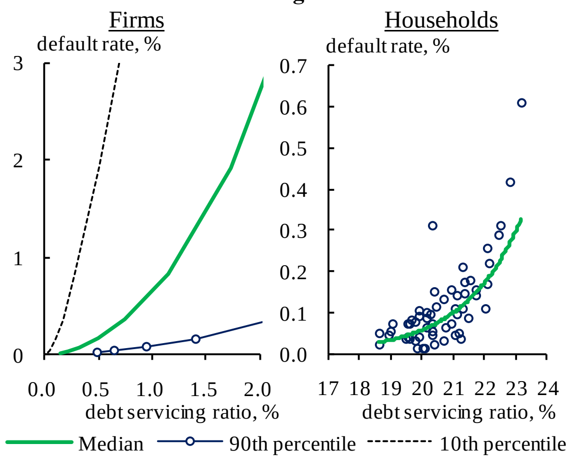


Note: *1*. Net interest income and capital gains/losses are changes from the actual levels in the second half of fiscal 2010 and changes from the previous period, respectively.
Source: BOJ calculations.

Robustness against a rise in interest rates (2)

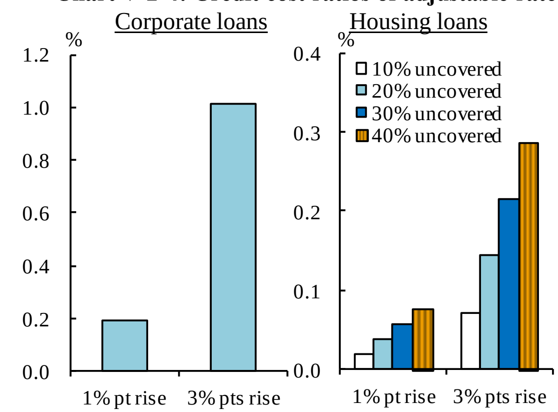
- A rise in market rates could lead to an increase in credit costs by causing adjustable rates on loans to rise. A rise in the default rate is apt to accelerate when debt servicing ratios exceed a threshold.
- Given high correlations among financial markets, a shock generated in overseas markets easily induces higher volatility in domestic markets, thereby raising the amount of market risk associated with JGBs held by Japan's banks.
  - ➢ Volatility in long-term JGBs moves closely with that in U.S. Treasuries. The regional banks have been actively investing in long-term JGBs and have become susceptible to overseas market developments.

Chart V-2-3: Debt servicing ratio and default rate[1,2]



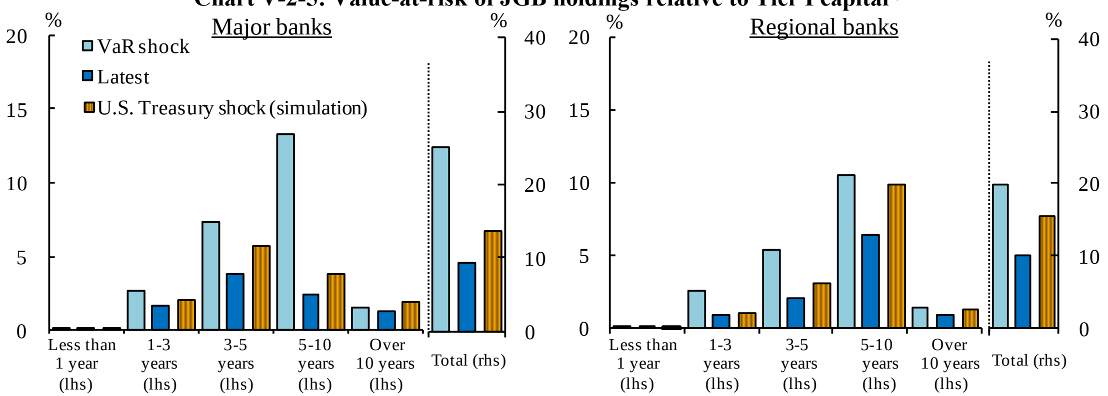
Notes: *1*. Defaults of firms and households are defined as loans delinquent for 3 months or more, etc. and delinquent for 6 months or more, respectively.
2. Sample is from fiscal 1995 to fiscal 2010 for firms, and consists of loans extended from March 2001 to August 2008 for households.
Sources: CRD; Japan Housing Finance Agency.

Chart V-2-4: Credit cost ratios of adjustable rate loans[1,2]



Notes: *1*. Defaulted loans due to an interest rate rise (horizontal axis) are assumed to be immediately written off.
2. The major banks and the regional banks are counted.
Source: BOJ calculations.

Chart V-2-5: Value-at-risk of JGB holdings relative to Tier I capital[1,2]



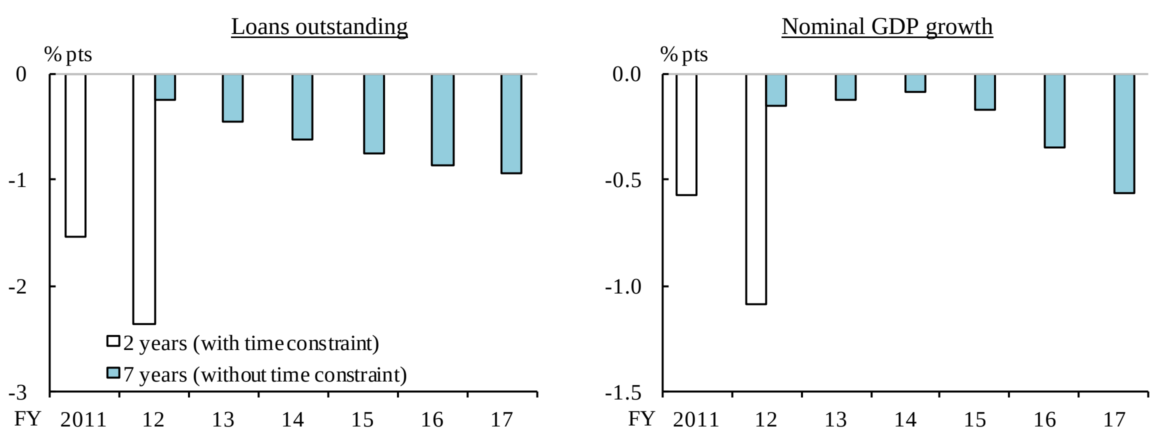
Notes: *1*. Value-at-risk with a 99 percent confidence level and 1-year holding.
2. Figures for the "VaR shock" and "latest" are as of July-September 2003 and January-March 2011, respectively.
Source: BOJ calculations.

A stress scenario assumes an upward shock with a 1 percent probability in the U.S. Treasury yield curve.

Feedback loop between the financial system and the real economy

- A decline in banks' capital could adversely affect the real economy by restraining banks from taking on credit risk.
  - ➢ The Financial Macroeconometric Model, which incorporates a feedback loop between the lending of banks and the spending of firms and households, is employed.
  - ➢ The same shock under the economic downturn scenario is assumed to occur in FY2011. In the process by which the Tier I capital ratio recovers to the level of the base point, the restraint on bank lending acts to contain spending by firms and households. If banks attempt to rebuild their Tier I capital ratio earlier, the expected fall in the nominal GDP growth rate would become greater.
- The new Basel requirements mandate that banks secure a minimum level of capital adequacy ratio by 2019. To prepare for the implementation of the requirements, banks need to strengthen their capital bases.

Chart V-3-1: Loans outstanding and nominal GDP growth[1]



Note: *1*. Figures are cumulative changes from the economic downturn scenario during the period for recovering Tier I capital ratio to the level at the base point. "With time constraint" is the case where loans outstanding are reduced further to recover Tier I capital ratio in 2 years.
Source: BOJ calculations.

Enhancing the effectiveness of risk management

- Financial institutions should enhance the effectiveness of risk management.

  i. Credit risk

  ✓ They are required to strengthen measures to help ailing borrowing firms improve their business conditions in order to raise the quality of their bank loans.

  ii. Market risk

  ✓ They should take into account correlations between domestic and overseas financial markets to gauge risks associated with securities investment from multiple perspectives, and then formulate balanced investment portfolios and manage market risk in an amount sufficiently covered by their capital.

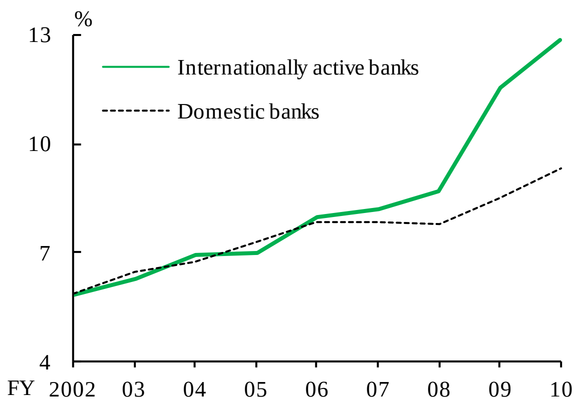
  iii. Funding liquidity risk

  ✓ Foreign currency funding needs to be managed closely amid a growing strain in overseas money markets.

Strengthening capital bases

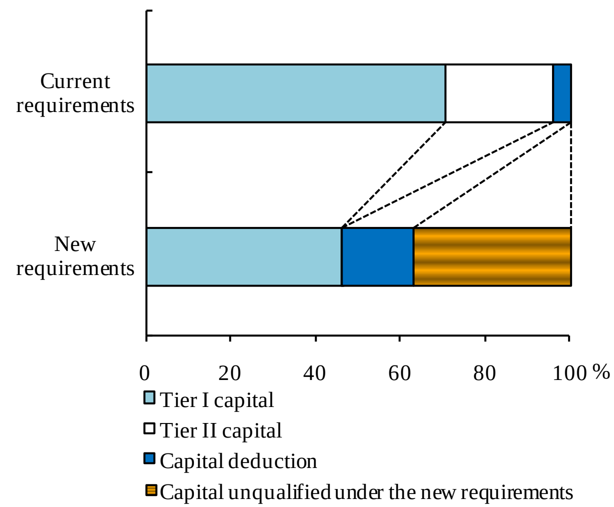
- Stable capital bases are indispensable to continue conducting smooth financial intermediation, including their responses to the demand for funds for rebuilding after the disaster as well as development and support of growing business areas.
- New Basel requirements will be applied in an orderly manner to internationally active banks from 2013. Financial institutions therefore face the need to strengthen their capital bases steadily.
  - ➢ It is probable that both Tier I and Tier II capital calculated under the new Basel requirements will be lower than currently. Banks need to continue to strengthen their capital bases in a planned manner by, for example, accumulating retained earnings and increasing instruments to be included in capital under the new requirements.

Chart IV-3-23: Tier I capital ratios[1]



Note: *1*. Based on the current requirements.
Source: BOJ.

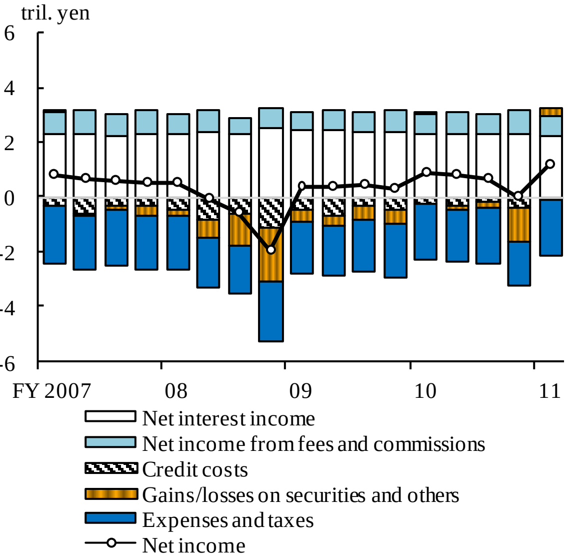
Chart IV-3-24: Capital components[1,2]



Notes: *1*. Internationally active banks are counted.
2. BOJ calculations based on questionnaires about financial conditions at end-September 2010. Grandfathering measures are not considered.
Source: BOJ.

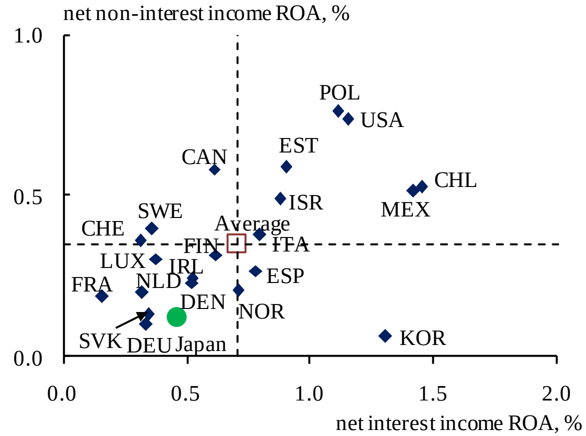
- Financial institutions are required to secure stable profits to accumulate retained earnings or to smoothly increase capital in order to strengthen their capital bases.
- They should continue to expand their profit bases by developing and supporting firms and business areas with high growth potential and make efforts to contain fluctuations in profits by setting prices to make new services profitable.
  - ➢ Profitability of Japan's banks is not necessarily favorable when compared globally.
  - ➢ Fees and commissions received from agency sales of investment funds and insurance products account for a growing proportion of overall profits. Nevertheless, since investment fund sales are susceptible to the business cycle, they could cause banks' profits to fluctuate.

Chart IV-3-25: Net income[1,2]



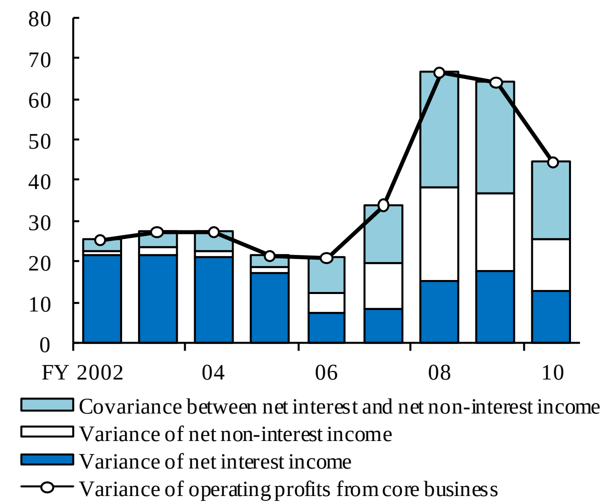
Notes: *1*.The major banks and the regional banks are counted.
2. On a consolidated basis. Credit costs (losses on disposal of NPLs) and expenses are of a non-consolidated basis. See Annex 2 for definitions of variables.
Source: Financial Quest.

Chart IV-3-26: International comparison of net interest income and net non-interest income[1,2]



Notes: *1*. Averages from 2000 to 2009.
2. On an expense-adjusted basis.
Source: OECD, "Bank profitability."

Chart IV-3-28: Variance of banks' profits[1,2]



Notes: *1*. Figures are calculated from annual ROAs in the preceding 5 years.
2. On an expense-adjusted basis.
Source: BOJ calculations.