Financial System Report

Summary

October 2014

Bank of Japan

Highlights of this issue of the *Financial System Report*

- **Chapter VII “Toward ensuring financial stability in the future”**

  By looking into the future, this chapter raises possible factors that may affect the stability and the functioning of the financial system, and describes key management challenges for financial institutions as well as actions by the Bank of Japan.

- **Chapter IV “Risks borne by financial institutions”**

  This chapter not only provides assessments of the current state of each risk, but also presents some issues that should be taken into account by financial institutions upon their conduct of risk management.

- **Chapter V “Risks observed in financial markets”**

  This chapter provides an enriched analysis on global financial markets in addition to that on Japanese financial markets.

- **Main sentences are provided in bold text so as to enable readers to grasp the essence.**

- **Analyses have been enriched in the following areas:**
  1. Detailed examination of the situation in the real estate market
  2. Empirical study on changes in financial institutions' portfolios
  3. Enhancement of analysis on financial institutions' funding liquidity risk
  4. Refinement of macro stress testing: (1) overseas loans, (2) credit risk assets

Contents of the *Financial System Report*

I. Comprehensive assessment of the financial system (1)

Functioning of the financial system:

Financial intermediation has operated more smoothly than before.

- Financial institutions have continued to adopt more proactive lending attitudes both at home and abroad. As for securities investment, they have increasingly taken on risks, albeit to a small extent, particularly by increasing their holdings of investment trusts.
  - Domestic loans have grown at a somewhat faster pace, and financial institutions have gradually extended loans to a wider range of regions and industries. Meanwhile, the narrowing of interest rate spreads on loans has continued.
  - The rate of increase in overseas loans has remained high.
- Financial markets have maintained favorable issuing conditions .
- Financial conditions among firms and households have become more accommodative.

Stability of the financial system:

Japan's financial system has been maintaining stability.

- Developments in financial intermediation show no indication of overheating. There is no indication of excessively bullish expectations.
- Capital bases of financial institutions have been adequate on the whole. Significant developments in the accumulation of risks have not been observed.
- Financial institutions generally have strong resilience against a significant economic downturn or a substantial rise in interest rates.
- Financial institutions have sufficient funding liquidity in yen funds. As for foreign currencies, they have secured a sufficient amount of liquidity to cover fund shortages even if they face difficulties in funding for a certain period.

I. Comprehensive assessment of the financial system (2)

Toward ensuring financial stability in the future:

Looking into the future, the following changes are expected to transform the financial system's risk profile:

- As the on-going globalization of the economy and the transformation of industrial structures progress further, the financial intermediation function of and risks borne by the financial system will change.
- Japan's growth potential and the future course of its economic and price developments will affect financial institutions' stance and performance in securities investment through interest rates and stock prices.
- Intensification of "search for yields" by investors in global financial markets could affect Japanese markets depending on future developments.
- A prolongation of the declining trend in financial institutions' profitability and the financial system's strengthening of its overseas connections could affect the stability and functioning of the financial system.

Based on the above considerations, the following three points can be raised as key management challenges for financial institutions:

- Enhancement of financial intermediation and strengthening of financial tools as well as risk management.
  - Responding appropriately to demand for funds associated with economic recovery and contributing to enhancing the vitality of national and regional industries.
- Securing of a stable funding base and strengthening of credit management and other functions in step with expanding overseas operations.
  - Large financial institutions need to attain higher levels of soundness and business management, including appropriate responses to international regulatory reforms.
- Appropriate risk taking and management under clear guidelines for the ALM.

I. Comprehensive assessment of the financial system (3)

Actions by the Bank of Japan:

The Bank will deepen dialogue with financial institutions through daily off-site monitoring and on-site examinations, particularly on their actions to deal with the challenges described above as well as their profitability, while encouraging them to improve their business and risk management.

- It will also exchange views with financial institutions on the actual situation surrounding national and regional industries as well as firms, challenges toward enhancing their vitality, and on possible actions from the financial side.
- Furthermore, it will promote the sharing of awareness of issues and knowhow by holding seminars on themes that would contribute to enhancing the functioning of financial intermediation and risk management.

The Bank will continue to examine the stability and functioning of the system from a macroprudential perspective. Based on the examination, as necessary, it will work to share a common understanding and to hold discussions with a wide range of participants in the financial system on matters including where risks lie, what issues to tackle, and how to respond appropriately to given circumstances.

- Macroprudeutial perspective: The accumulation and biased distribution of macroeconomic risks as well as their resolution, the feedback loop between the financial system and the macroeconomy, the system's linkages to the global financial system, the accumulation and concentrated unwinding of risks in markets, and the interconnectedness of large financial institutions, and so on.

II. Examination of the external environment

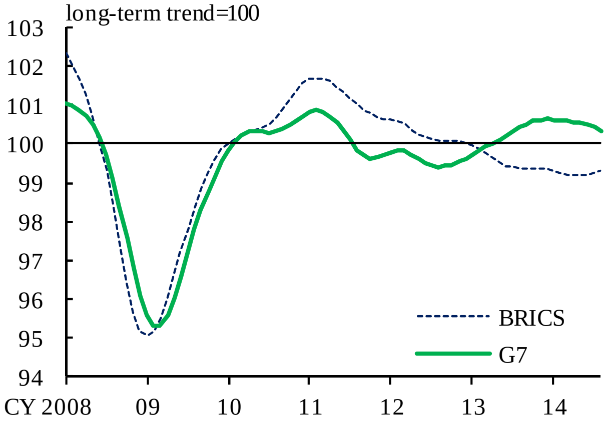
A. Developments in overseas economies and global financial markets

➢ **Overseas economies -- mainly advanced economies -- have been recovering, albeit with a lackluster performance still seen in part.**

- In the United States, the moderate economic recovery has started to take hold. The European economy has been recovering moderately, although its improvement has paused recently. Emerging economies have continued to lose pace as a whole.

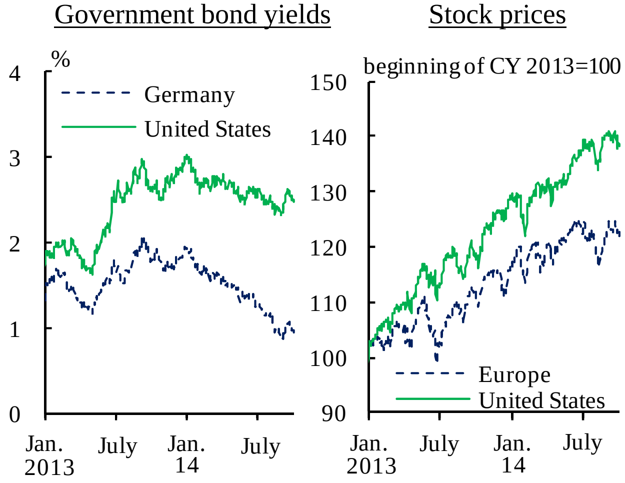
➢ **The volatility of interest rates, stock prices, and exchange rates has been declining in global financial markets, and search for yields by global investors has been increasingly notable.**

Chart II-1-1: OECD composite leading indicators



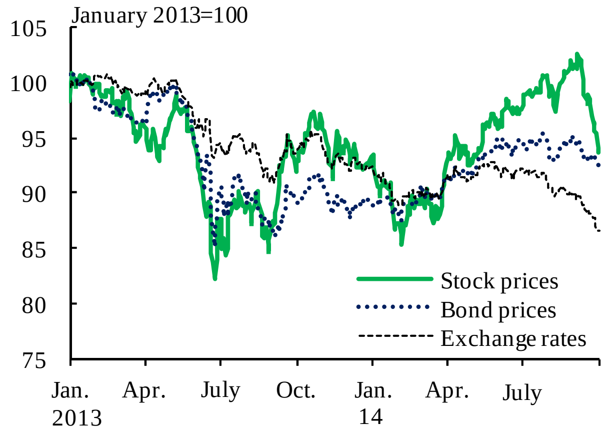
Source: OECD.

Chart II-1-6: Government bond yields and stock prices in advanced countries



Source: Bloomberg.

Chart II-1-7: Stock prices, bond prices, and exchange rates in emerging markets



Source: Bloomberg.

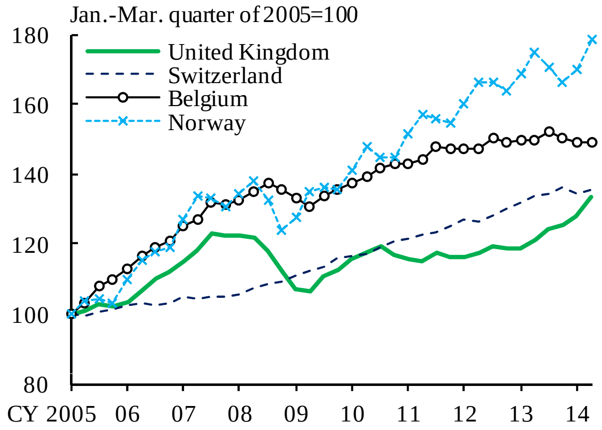
II. Examination of the external environment

(Box 1) Activation of macroprudential policy measures in advanced countries

➢ **In some advanced countries, real estate prices are rising at a faster pace, and financial authorities have activated macroprudential policy measures in order to prevent the overheating in the real estate market.**

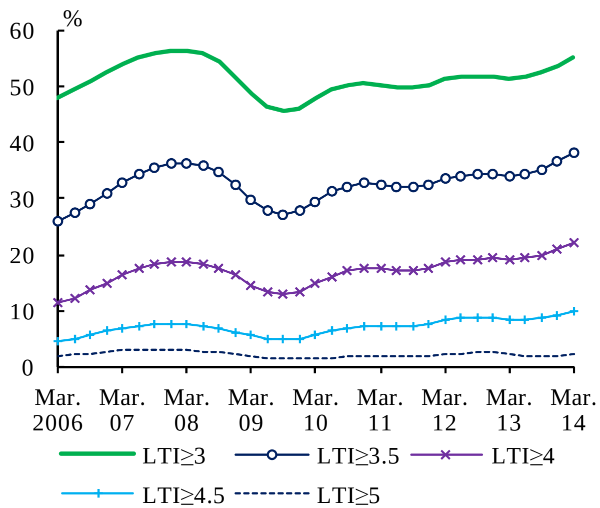
- The United Kingdom: restrict the ratio of the number of new residential mortgages -- with an LTI ratio of or greater than 4.5 -- to no more than 15% of the total number of new residential mortgages.
- New Zealand: restrict loans with high LTV ratios, stipulating that banks would be required to restrict new residential mortgage lending at LTV ratios of over 80% to no more than 10% of the dollar value of their new residential mortgage lending.

Chart II-1-4: Real estate prices in Europe



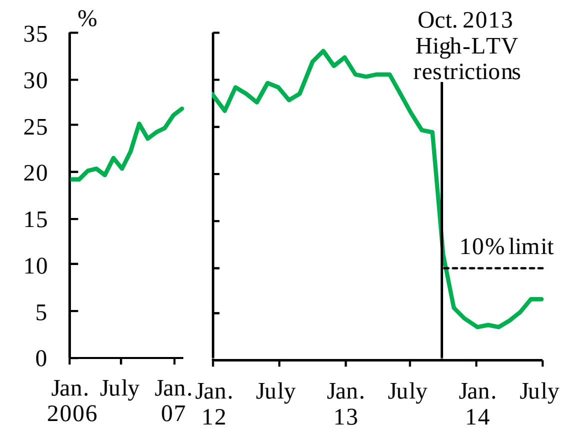
Sources: BIS, "Property price statistics"; Office for National Statistics.

Chart B1-4: Ratio of new mortgages with LTI (loan-to-income) multiples in the United Kingdom



Source: BOE.

Chart B1-2: Ratio of new mortgage loans with an LTV (loan-to-value) ratio of above 80% in New Zealand



Source: RBNZ.

II. Examination of the external environment

B. Domestic economy and fiscal conditions

- **Japan's economy has continued to recover moderately as a trend, although some weakness particularly on the production side has been observed due mainly to the effects of the subsequent decline in demand following the front-loaded increase prior to the consumption tax hike.**
- **Regarding fiscal conditions, government debt has continued to increase, and national debt service expenditure (the sum of redemption fees and interest payments) has also increased.**

Chart II-2-2: DI of business conditions (*Tankan*)

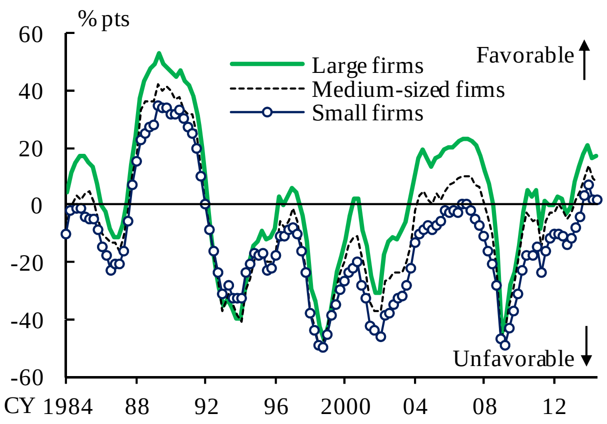
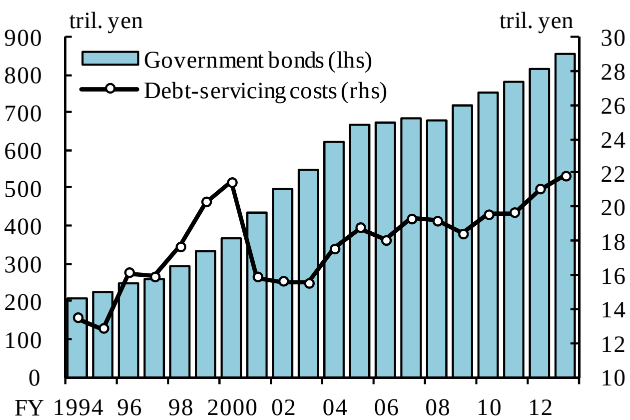
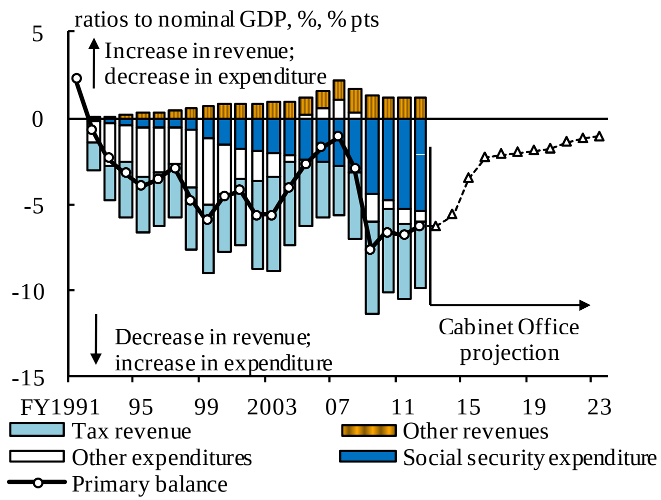


Chart II-2-3: Government debt outstanding and debt-servicing costs



Source: Ministry of Finance.

Chart II-2-4: Primary balance



Sources: Cabinet Office, "Economic and fiscal projections for medium to long term analysis," "National accounts"; BOJ.

III. Examination of financial intermediation

A. Financial intermediation by financial institutions (1): Domestic loans

- **The amount of financial institutions' domestic loans outstanding has grown slightly faster in the 1st half of FY2014 than in the 2nd half of FY2013.**
- **Financial institutions have further eased their credit standards since the beginning of FY2014.**
- **On the other hand, the increase in the demand for funds remains modest since the corporate sector as a whole maintains a large cash buffer. Against this backdrop, the narrowing trend in interest rate spreads on loans has continued.**

Chart III-1-1: Domestic loans outstanding among financial institutions

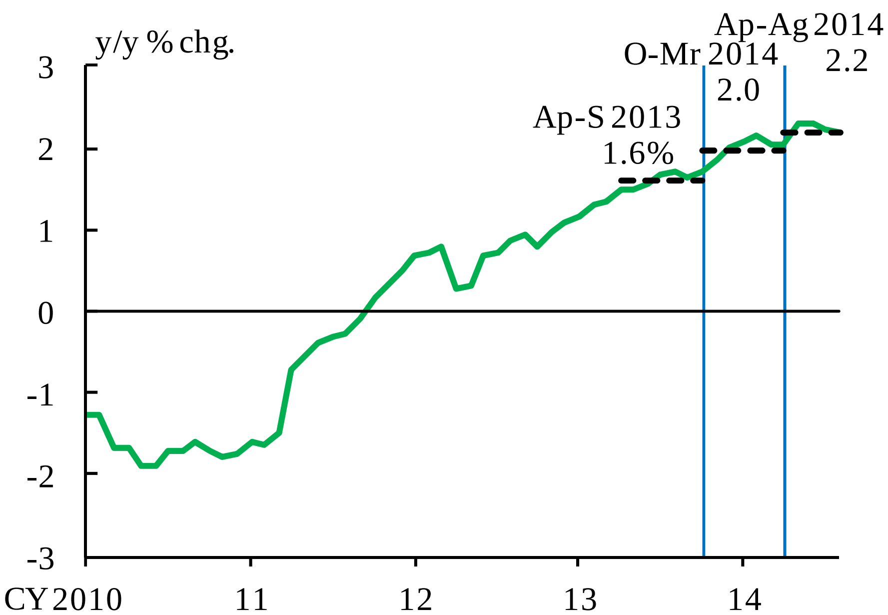
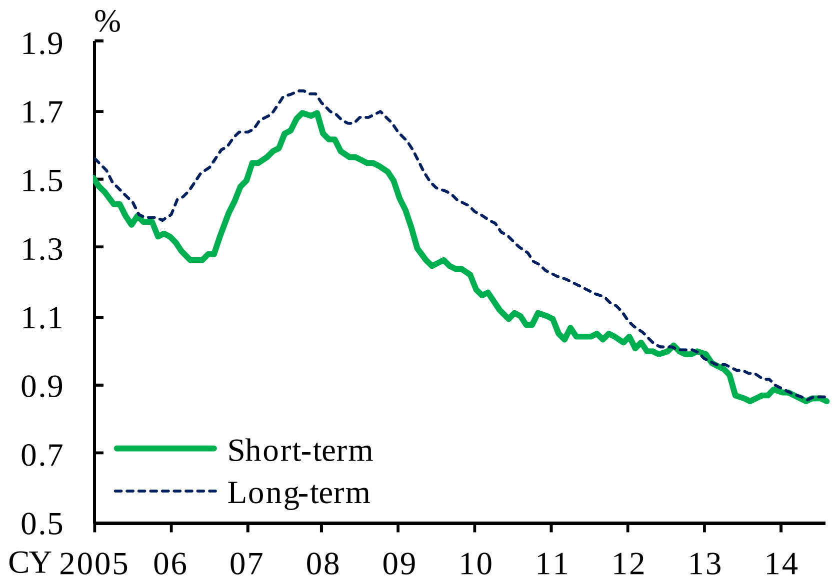


Chart III-1-7: Average contract interest rates on new loans and discounts



III. Examination of financial intermediation

A. Financial intermediation by financial institutions (1): Financial institutions' credit standards

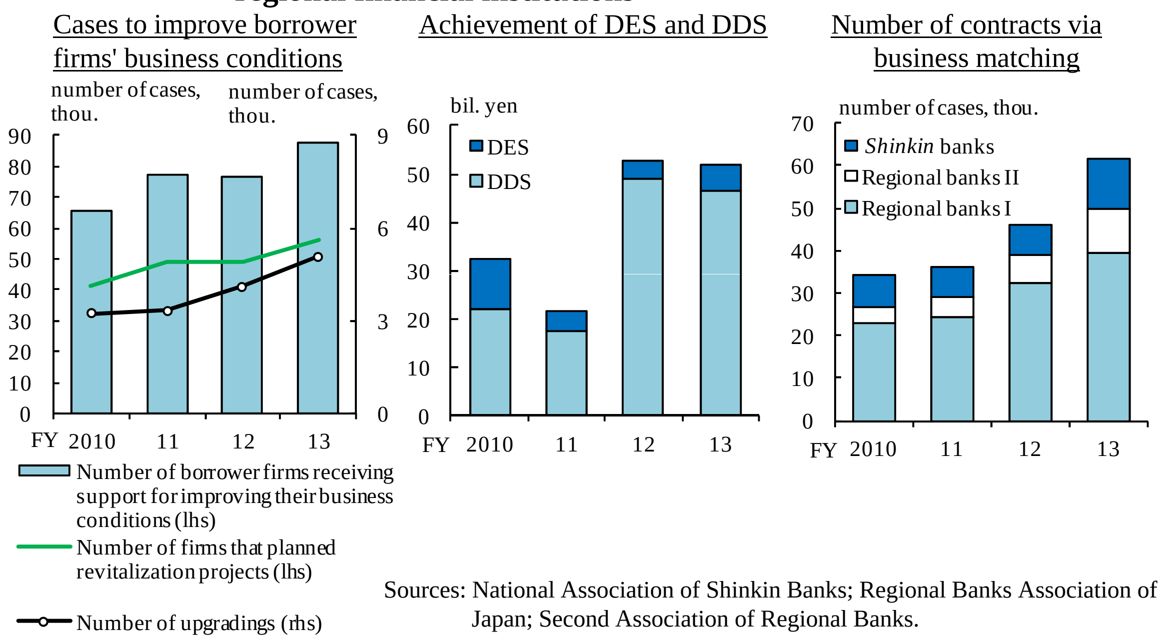
➢ **Financial institutions are headed in the direction of increasingly taking risks as follows:**

- launch or expand low-yield medium- to long-term funds aimed at supporting fixed investments and growing business areas.
- give greater decision-making authority to branch managers and increase the credit line per borrower.
- extend the target of loan increase to borrowers with low credit ratings in "normal" loans or in "need attention" loans.
- expand their businesses on credit card loans and other consumer credits.

➢ **Financial institutions are making steady progress in terms of supporting efforts to enhance the vitality of industries.**

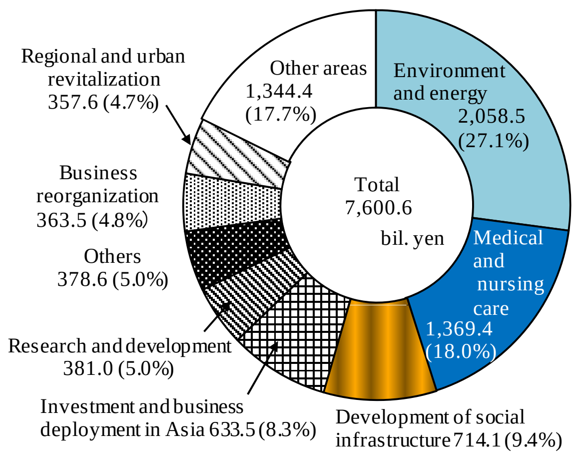
- (1) Contributing to the restructuring or M&A activities of large firms, (2) Assisting the revitalization and succession of small and medium-sized firms, (3) Fostering growth businesses, (4) Offering new financial intermediary schemes such as asset-based lending (ABL), (5) Supporting firms' overseas business expansion, and (6) Engaging in efforts such as the Private Finance Initiative (PFI) and the Public Private Partnership (PPP).

Chart III-1-5: Support for small and medium-sized firms' business conditions by regional financial institutions



Sources: National Association of Shinkin Banks; Regional Banks Association of Japan; Second Association of Regional Banks.

Chart III-1-6: BOJ's loan disbursements under the fund-provisioning measure to support the strengthening of foundations for economic growth by area



III. Examination of financial intermediation

A. Financial intermediation by financial institutions (1): Recent features of domestic loans

- **Loans to small and medium-sized firms have been contributing to overall domestic loan growth to a certain extent.**
- **The increase in the amount of loans outstanding is gradually spreading out over various regions and industries.**
  - Regional banks' loans to local firms have been growing at a faster pace.
- **The rate of growth in loans to the real estate industry remains moderate.**

Chart III-1-10: Loans outstanding among financial institutions by sector

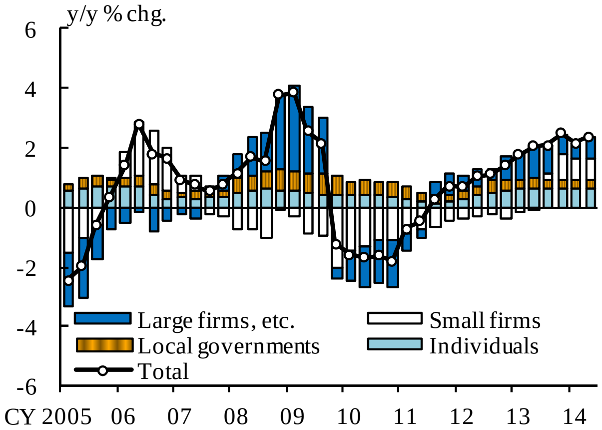


Chart III-1-17: Regional banks' corporate loans for local areas and loans of Tokyo offices

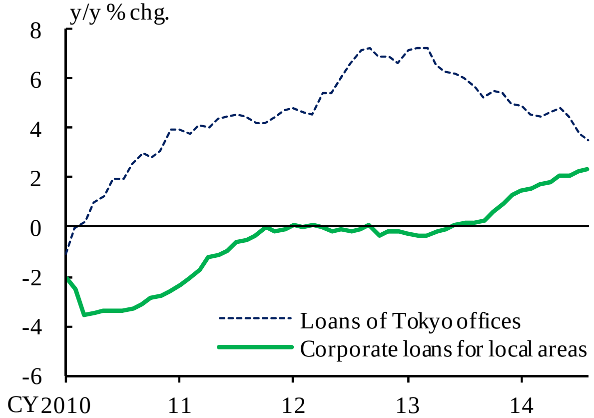
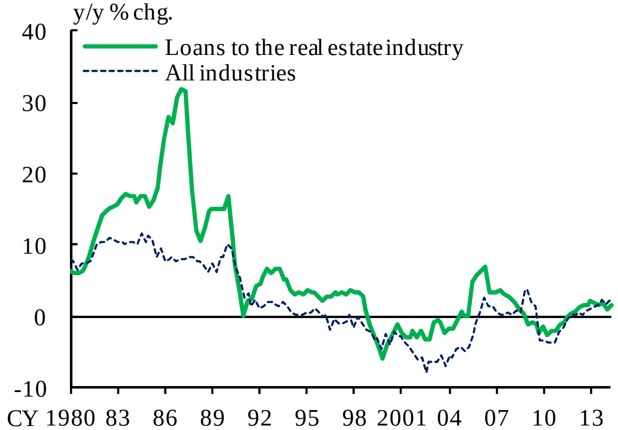


Chart III-1-18: Loans to the real estate industry among financial institutions

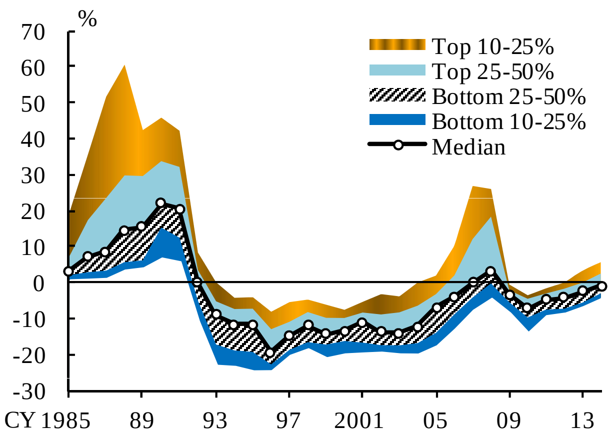


III. Examination of financial intermediation

(Box 2) The situation in the real estate market

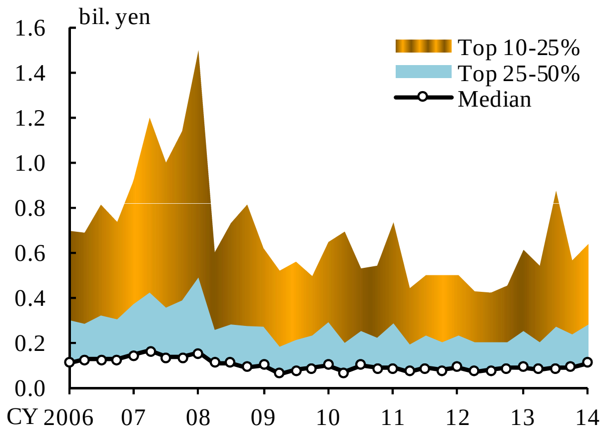
➢ **In the real estate market, no signs of overheating have been observed thus far on the whole, although transactions of some individual properties, such as high-priced ones, and the number of large-scale land transactions, have increased.**

Chart B2-3: Distribution of year-on-year rates of change in prefectural commercial land prices



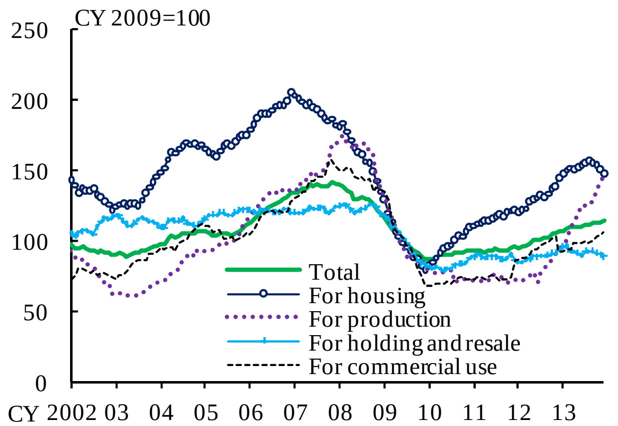
Source: Ministry of Land, Infrastructure, Transport and Tourism, "Public notice of land prices."

Chart B2-4: Distribution of individual commercial property transaction prices (23 Tokyo wards)



Source: Ministry of Land, Infrastructure, Transport and Tourism, "Real estate transaction-price information."

Chart B2-2: Number of large-scale land transactions



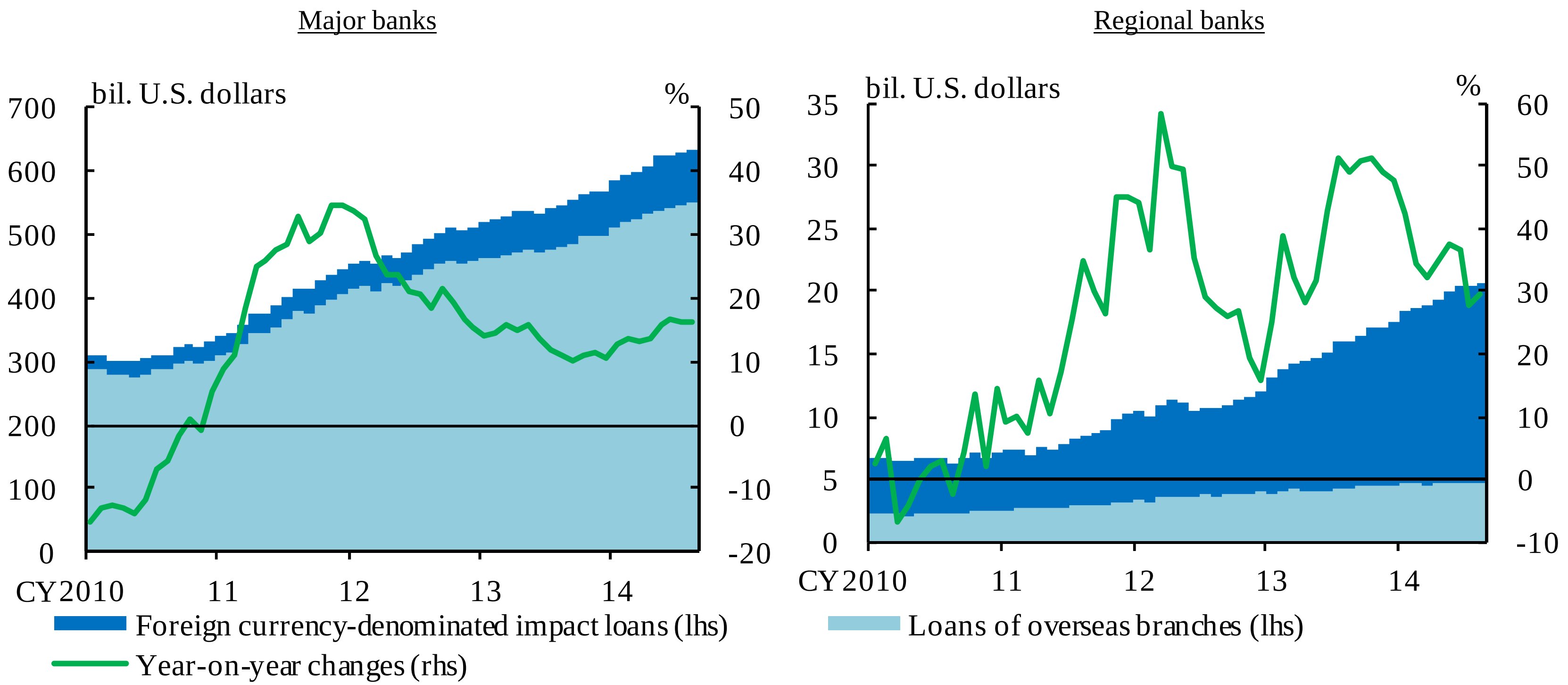
Source: Ministry of Land, Infrastructure, Transport and Tourism.

III. Examination of financial intermediation

A. Financial intermediation by financial institutions (2): Overseas loans

- **Banks' overseas loans have continued to show high growth.**
- **Banks have actively engaged in overseas lending to support global expansion of Japanese firms and to capture financial needs of Asian or other countries with high growth potential.**
  - Major banks have also worked to expand their supply of financial services at local areas by increasing the number of staff working at their foreign branches or acquiring and investing in foreign banks and financial firms.

Chart III-1-21: Banks' foreign currency-denominated loans and loans of overseas branches



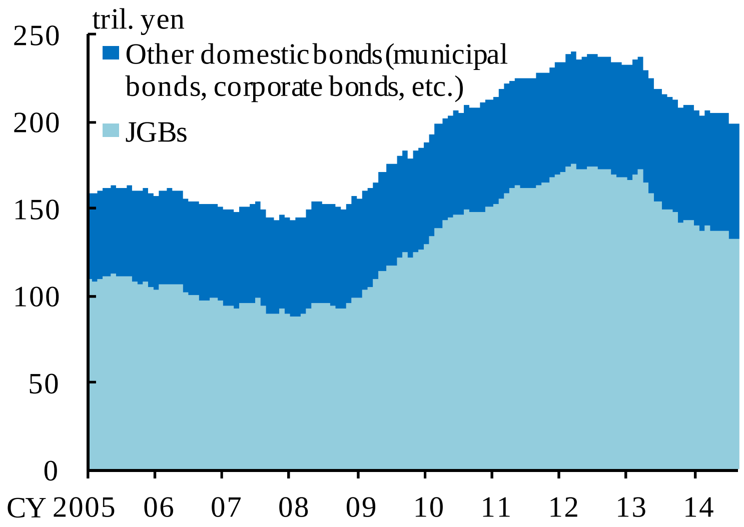
A. Financial intermediation by financial institutions (3): Securities investment

➢ **Financial institutions have gradually been enhancing their risk-taking stance by, for example, accumulating their holdings of investment trusts and other assets while maintaining a high level of yen-denominated bond investment.**

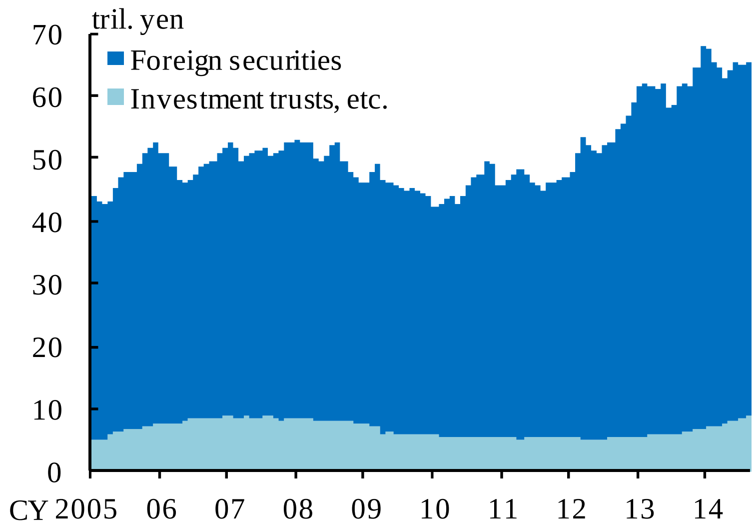
- The outstanding amount of domestic bondholdings has been on a moderate declining trend since end-June 2013. However, it is still at a high level compared with the past. Major banks are dominantly contributing to the drop. Although regional financial institutions have ceased to accumulate domestic bonds as had been observed until around spring 2013, their outstanding amount has been largely unchanged. Since the beginning of this fiscal year, as a substantial gap between deposits and loans remains, a greater number of banks have gradually accumulated domestic bondholdings.
- The outstanding amount of investment trusts and other assets has been on an upward trend for all types of banks. And regional banks' holdings of their investment trusts have been around their historical high.
- Investment in foreign securities has substantially increased for regional banks, while it has shown somewhat large fluctuations for major banks.

Chart III-1-28: Securities investment among financial institutions

Outstanding amount of domestic bonds



Outstanding amount of foreign securities, investment trusts, etc.



III. Examination of financial intermediation

A. Financial intermediation by financial institutions (3): Securities investment by type of banks

Chart III-1-29: Outstanding amount of domestic bonds by type of bank

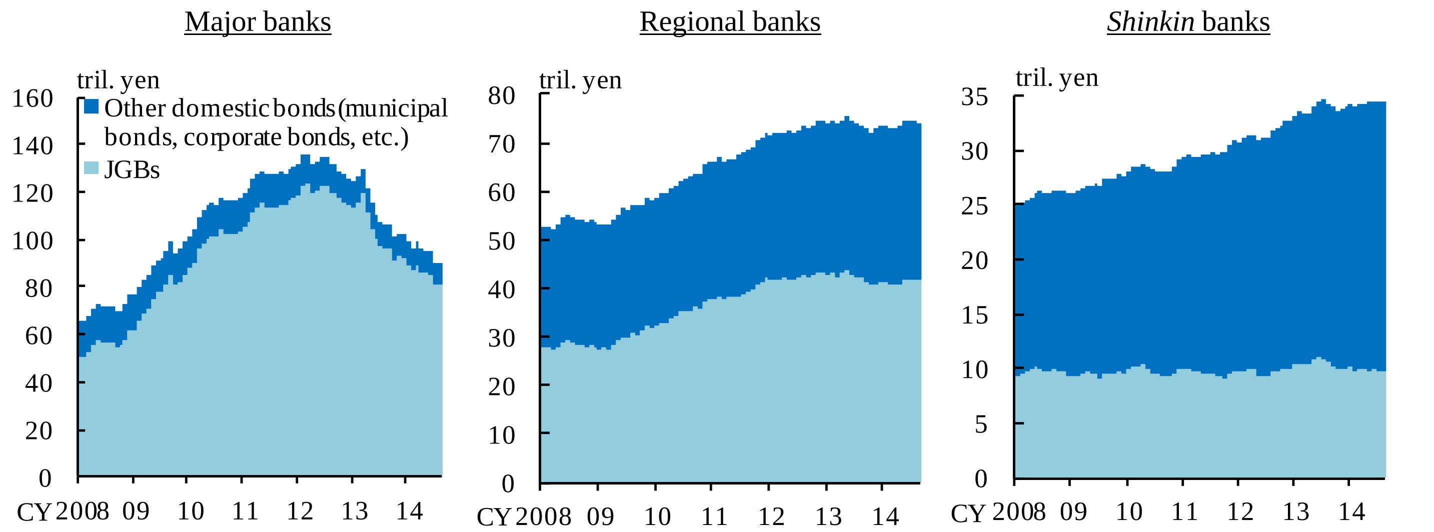
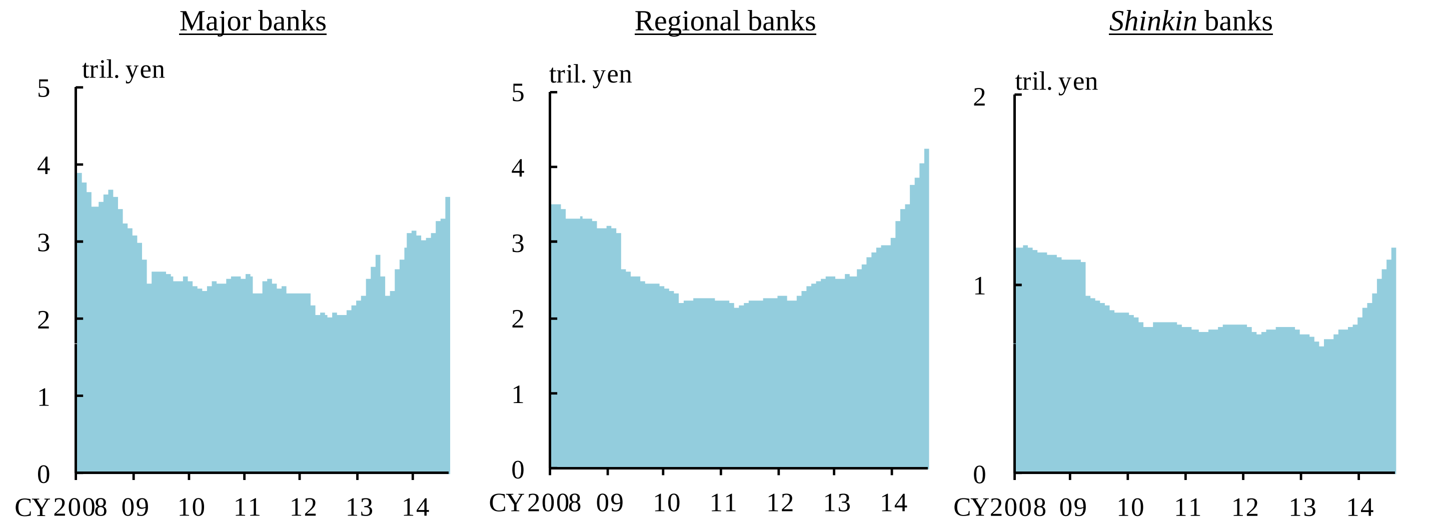


Chart III-1-30: Outstanding amount of "investment trusts, etc." by type of bank



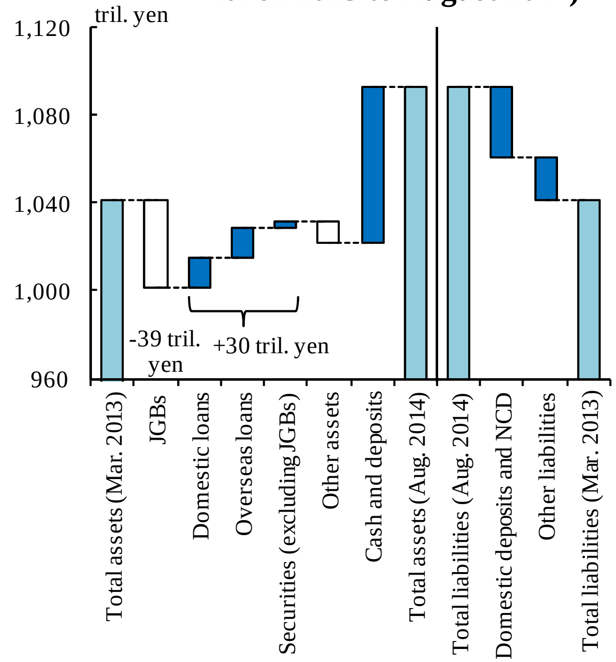
III. Examination of financial intermediation

A. Financial intermediation by financial institutions (4): Financial institutions' balance sheet changes since the implementation of QQE

➢ **Since the introduction of QQE, total assets and liabilities in the balance sheet of financial institutions have substantially increased (by 52.2 tril. yen from Mar. 2013 to Aug. 2014)**

- Cash and deposits (including BOJ current account deposits) have increased by 71.7 tril. yen.
- JGB holdings decreased by 39.3 tril. yen, whereas the increase in risky assets reached 30.0 tril. yen (domestic loans: 13.1 tril. yen, overseas loans: 13.3 tril. yen, securities investment excluding JGBs: 3.6 tril. yen). Given the difference in the size of risks, however, the increase may suggest that a relatively large shift from JGBs to other types of risky assets, including credit, stock, and overseas interest rates risk, has proceeded.

Chart III-1-34: Changes in assets and liabilities among financial institutions (from March 2013 to August 2014)

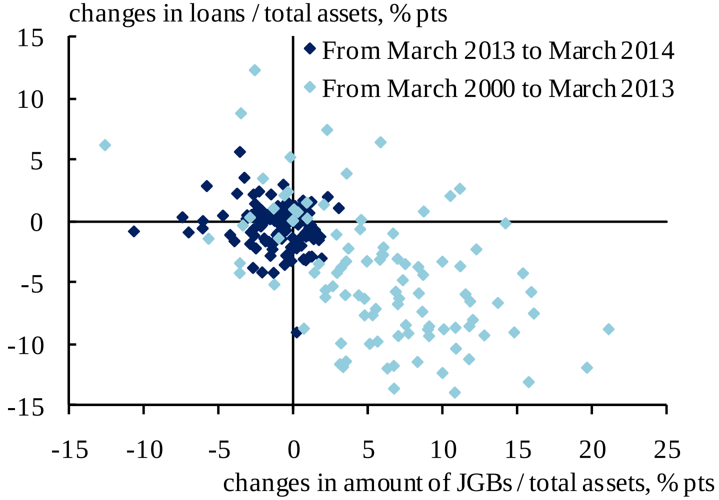


III. Examination of financial intermediation

(Box 3) Relationship between the amount of interest rate risk on bonds and bank lending

- **Developments of individual financial institutions also confirm the reductions in the amount of JGB holdings and increases in that of loans.**
  - Since the introduction of QQE, the amount of loans has been increasing at a considerable number of financial institutions, while the amount of JGB holdings has been decreasing.
- **There exists a statistically significant relationship between the decrease of interest rate risk on bondholdings and the increase of loans in major banks.**

Chart III-1-35: Changes in loans and JGB holdings before and after QQE



Relationship between the amount of interest rate risk on bonds and bank lending observed from major banks' panel data

■ Equation

$$
\left(\frac{Loans}{Total\ assets}\right)_{i,t} = \alpha\left(\frac{Capital}{Risk\ assets}\right)_{i,t-1} + \gamma\ Profit\ target_{i,t}
+ \beta_1\left(\frac{Interest\ rate\ risk\ on\ bondholdings}{Risk\ assets}\right)_{i,t-1}
+ \beta_2\left(\frac{Market\ risk\ associated\ with\ stockholdings}{Risk\ assets}\right)_{i,t-1}
+ \delta\left(\frac{Housing\ loans}{Loans}\right)_{i,t} + Const. + Cross\ section\ dummy_i
+ Time\ dummy_t + Residuals_{i,t}
$$

■ Estimation results

	Coef.	t-value
Capital adequacy ratios (t-1)	0.21 **	2.15
Ratio of operating profits from core business to total assets	5.21 ***	4.06
Interest rate risk on bondholdings (100 bpv) / Risk assets (t-1)	-4.41 ***	-7.66
Market risk associated with stockholdings (99%VaR)/ Risk assets (t-1)	-0.81 ***	-4.40
Housing loans/ Loans	0.21 ***	4.48
Const.	49.62 ***	25.14

III. Examination of financial intermediation

B. Developments in investment by institutional investors

- **Institutional investors such as life insurance companies and pension funds have not changed their basic investment strategies and have mainly invested in domestic, long-term bonds.**
- **However, since the beginning of fiscal 2014, they have increased their holdings of stocks or foreign bonds in their portfolios, albeit slightly.**

Chart III-2-2: Asset investments among life insurance companies

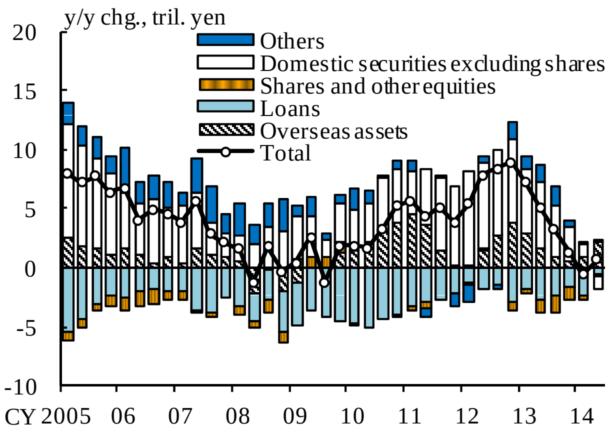
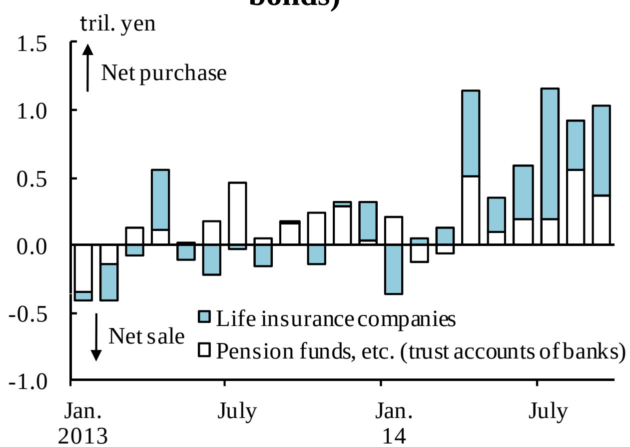
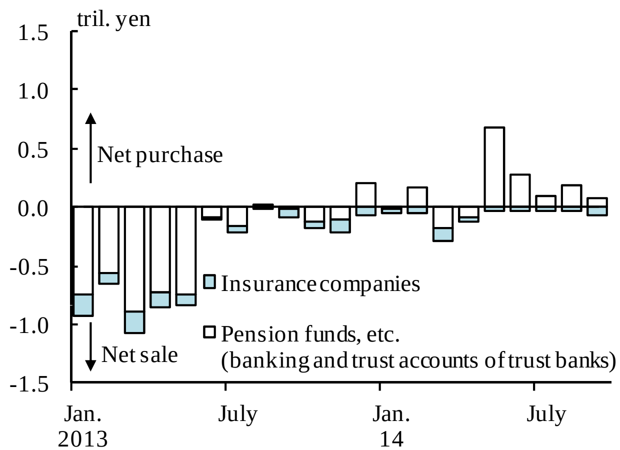


Chart III-2-3: Outward investment among pension funds, etc. and insurance companies (medium- and long-term bonds)



Source: Ministry of Finance.

Chart III-2-4: Trading volume in Japanese stocks by insurance companies and pension funds, etc.

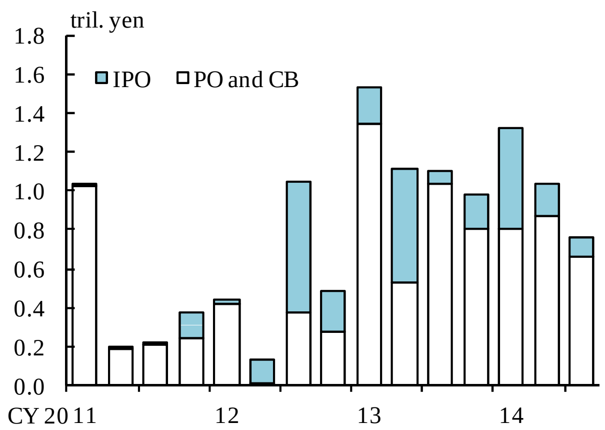


Source: Tokyo Stock Exchange.

C. Financial intermediation through financial markets

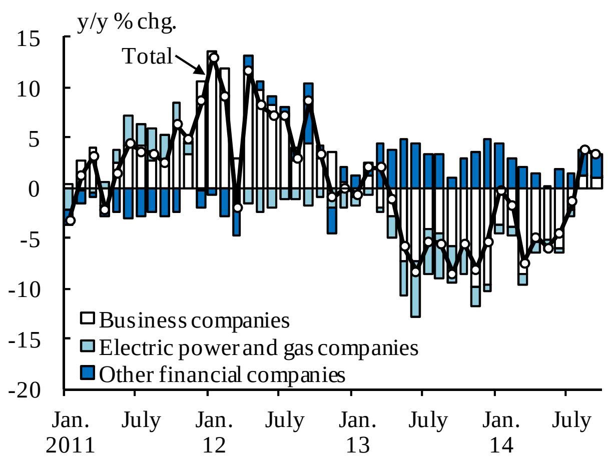
- **Equity financing through the stock market remains at a high level.**
  - New listings and public offerings of Japan real estate investment trusts (J-REITs) have been actively undertaken on the whole.
- **Issuing conditions for CP and corporate bonds have continued to be favorable and the amount issued slightly exceeds that of the previous year.**

Chart III-3-1: Equity financing



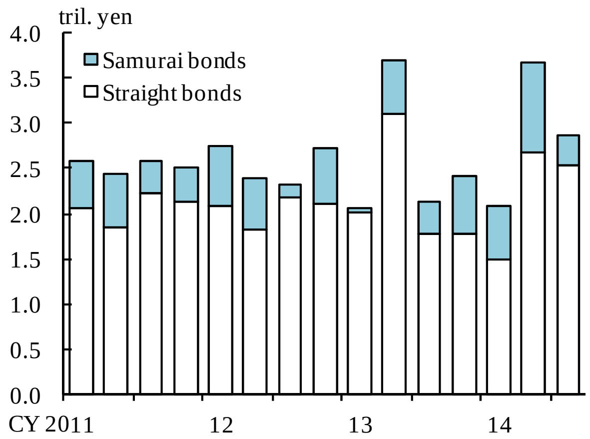
Source: I-N Information Systems.

Chart III-3-4: Outstanding amount of CP



Source: Japan Securities Depository Center.

Chart III-3-6: Amount of corporate bonds issued



Source: I-N Information Systems.

III. Examination of financial intermediation

D. Financial conditions among firms and households

- **Financial conditions among firms and households have become more accommodative.**
  - Funding costs have continued to exhibit a downward trend.
  - Lending attitudes of financial institutions as perceived by firms have become more accommodative.
- **The share of risky assets in households' financial assets has gradually been increasing.**
  - The amount of Nippon Individual Savings Accounts (NISAs) and the number of wrap accounts opened have increased.

Chart III-4-1: DI of lending attitudes of financial institutions as perceived by firms

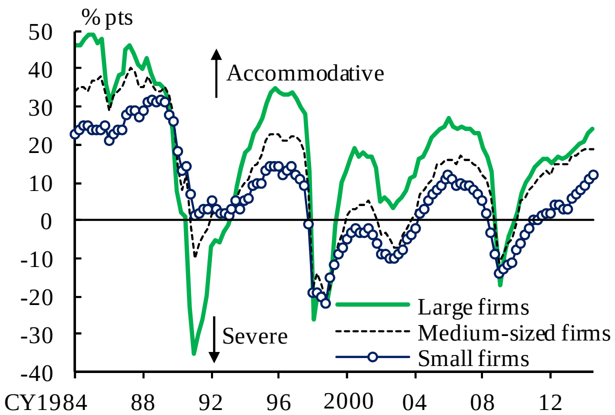


Chart III-4-9: Wrap accounts

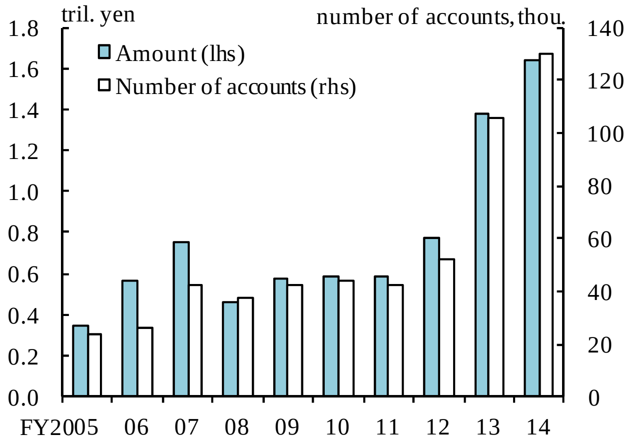
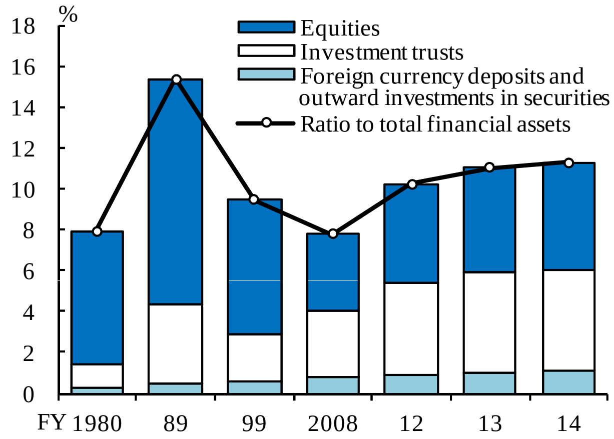


Chart III-4-10: Compositions of financial assets among households



Source: Japan Investment Advisers Association.

IV. Risks borne by financial institutions

A. Credit risk (1): Credit risk and asset quality

➢ **Financial institutions' credit risk has continued a declining trend against the background of their improved asset quality.**

- Financial institutions are trying to take on greater risk, and have increased their outstanding amount of loans. Nevertheless, the amount of credit risk has declined basically due to the significantly positive effects of an improvement in the quality of assets, reflecting the economic recovery.
- The borrower classification shows that the ratio of normal loans to total loans has exceeded the peak level reached prior to the Lehman shock for major banks and regional banks, and has also risen for *shinkin* banks.

Chart IV-1-1: Credit risk among financial institutions

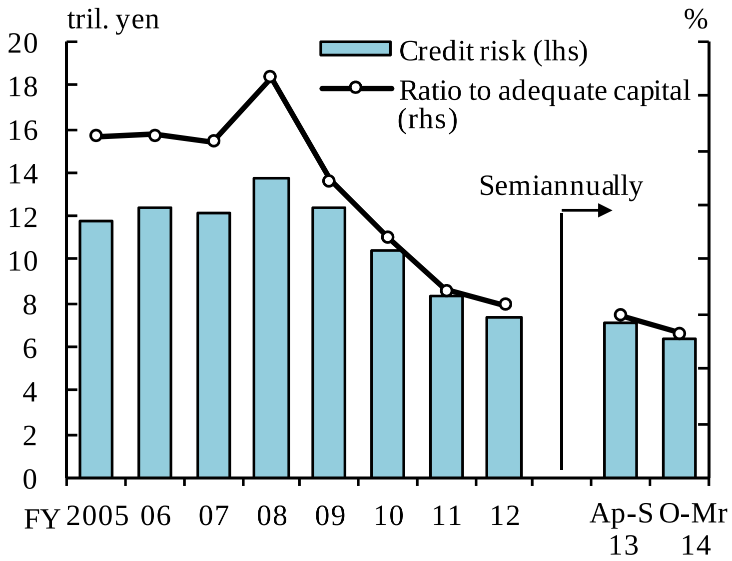
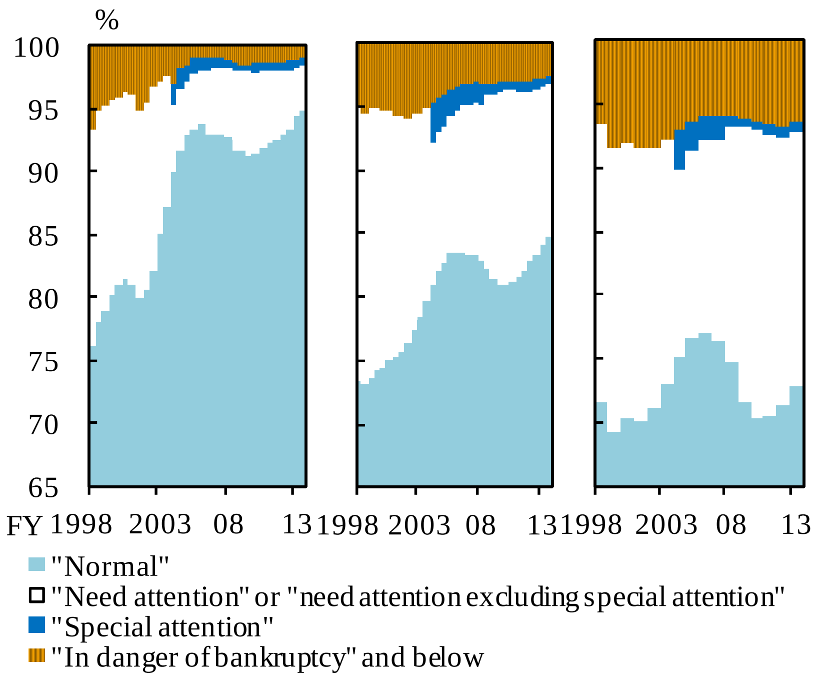


Chart IV-1-5: Loans outstanding by borrower classification



IV. Risks borne by financial institutions

A. Credit risk (2): Credit cost ratio, loan-loss ratio

➢ **Under these circumstances, the credit cost ratio (the ratio of costs incurred by credit extension to loans outstanding) and the loan-loss ratio (the ratio of loan-loss provisions to loans outstanding) of financial institutions have continued to decline.**

- Credit cost ratio associated with overseas loans has generally been restrained.

Chart IV-1-7: Credit cost ratio of banks

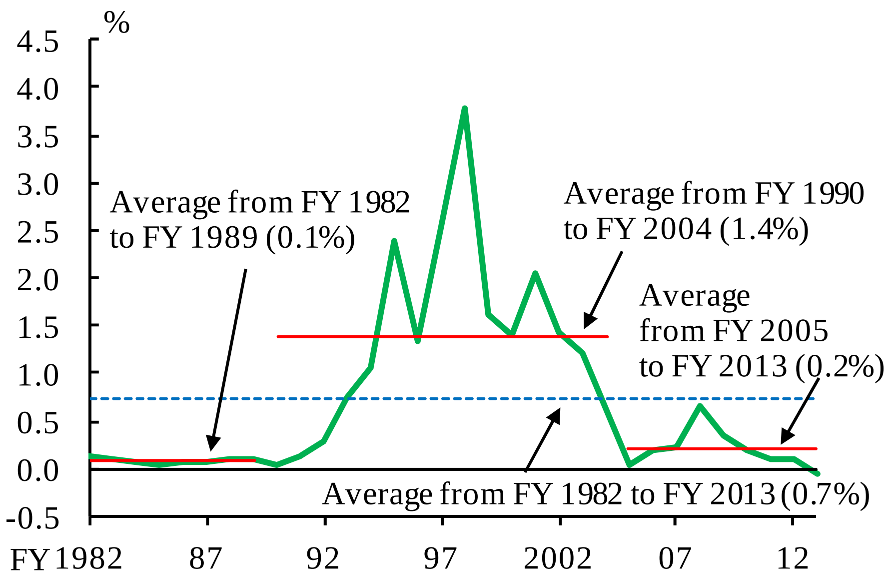
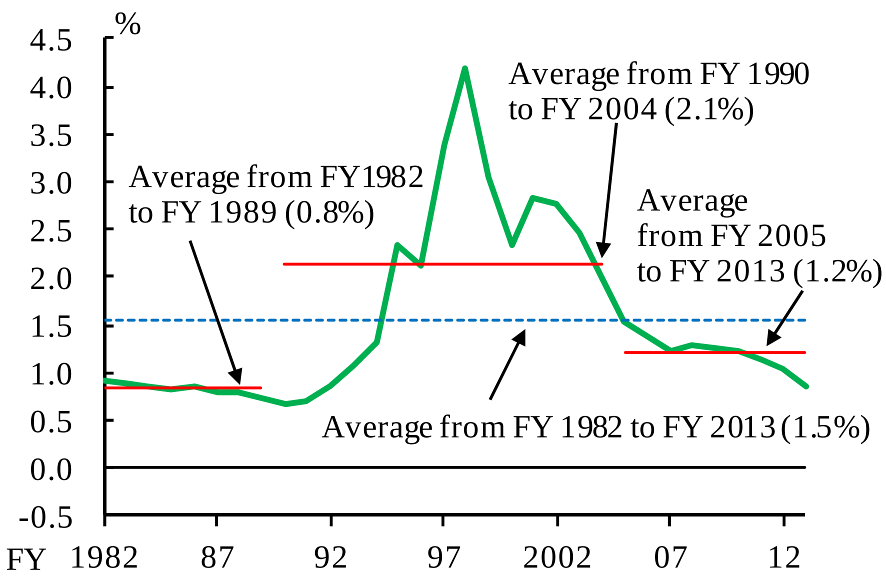


Chart IV-1-8: Loan-loss ratio of banks



IV. Risks borne by financial institutions

A. Credit risk (3): Issues on credit risk

➢ **Financial institutions' credit risk has generally been restrained. However, the following three points should be noted in terms of risk management.**

A. Credit costs have been at a considerably low level from a long-term perspective. It is possible that the loan-loss ratio and the amount of credit risk have been underestimated, as their recent levels reflect this trend.

- Financial institutions need to manage credit risks appropriately while bearing this in mind.

B. It is probable that financial institutions' credit risk and loan-loss ratio will rise, through the process in which they take further measures to support efforts to enhance the vitality of industries, such as the fostering of growth businesses or the revitalization of firms.

- Growing business areas, including the environment and energy-related business and the medical and welfare-related business, have characteristics that differ from those of existing industries. Financial institutions need to steadily enhance their analysis and improve their ability to assess lending and equity investments. Risk management is also considered necessary with regard to lending to the house and room leasing business, which has recently continued to exhibit relatively high growth.
- Concerning support for poorly performing firms, the focus will gradually shift from providing support through funding to fundamental business reconstruction or support for borrowers' main business. Financial institutions must work toward business revitalization of borrowing firms, and appropriately reflect progress made in these activities as well as the need for financial support in their assessment of risks.
- Overseas lending is expected to continue growing at a relatively high rate. Overseas loans are associated with country risks, and risks owing to institutional or infrastructural differences among countries. Financial institutions need to develop their ability to manage credit risk in response to business expansion.

C. The assessment of risk and return in loans has become important as interest rate spreads on loans have continuously narrowed.

IV. Risks borne by financial institutions

B. Interest rate risk (1): Amount of interest rate risk associated with bond investment

- **The amount of interest rate risk associated with bondholdings as of the end of June 2014 reached 7.6 tril. yen. Compared to 8.6 tril. yen during the recent peak at the end of March 2013, the amount has decreased by 12.5%. Major banks are dominantly contributing to the drop.**
- **However, from the beginning of fiscal 2014, the amount of interest rate risk has turned to an increase, albeit very slightly, reflecting the increase in domestic bond investment particularly among regional financial institutions.**

Chart IV-2-3: Interest rate risk associated with bondholdings among financial institutions

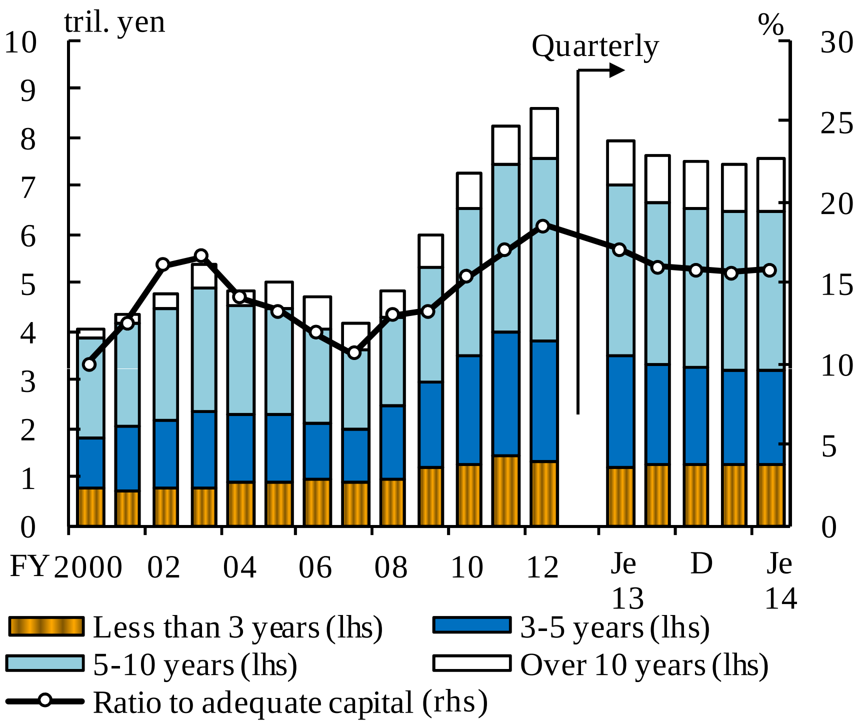
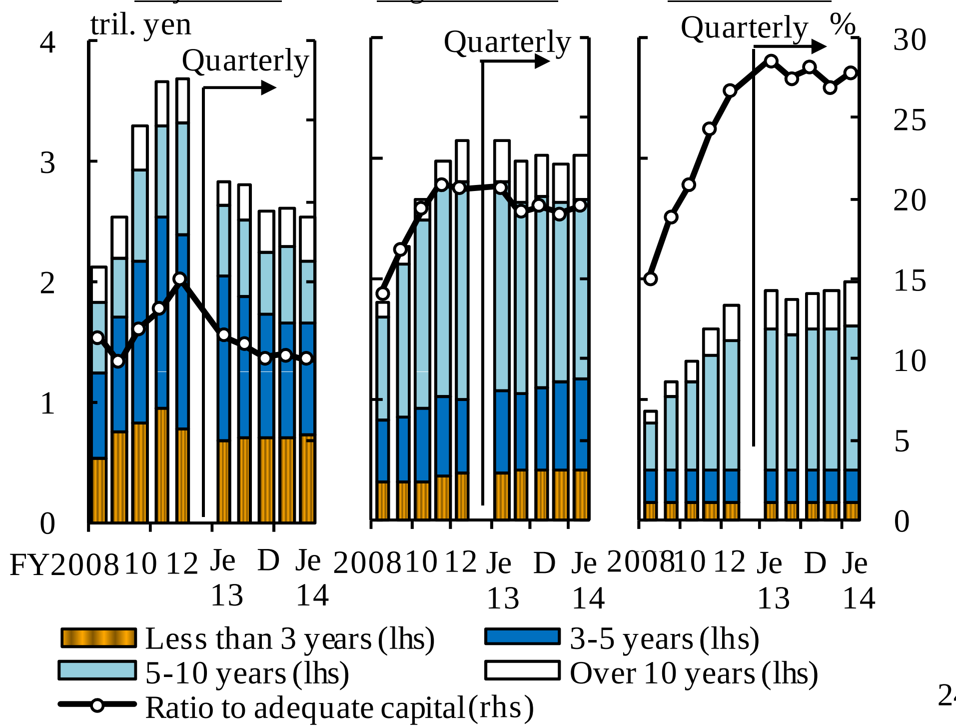


Chart IV-2-4: Interest rate risk associated with bondholdings by type of bank



IV. Risks borne by financial institutions

B. Interest rate risk (2): Interest rate risk among individual financial institutions

➢ **Looking at individual regional financial institutions, not a small number of financial institutions with relatively low capital adequacy ratios have significantly expanded their amount of interest rate risk.**

Chart IV-2-1: Effects of a rise in interest rates on capital losses on bondholdings

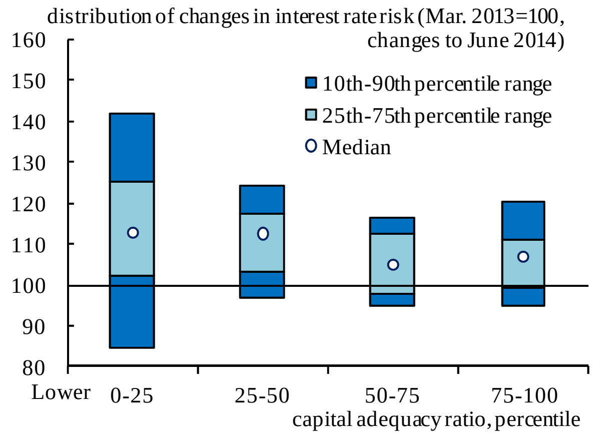
Upward shift by 1 percentage point

tril. yen

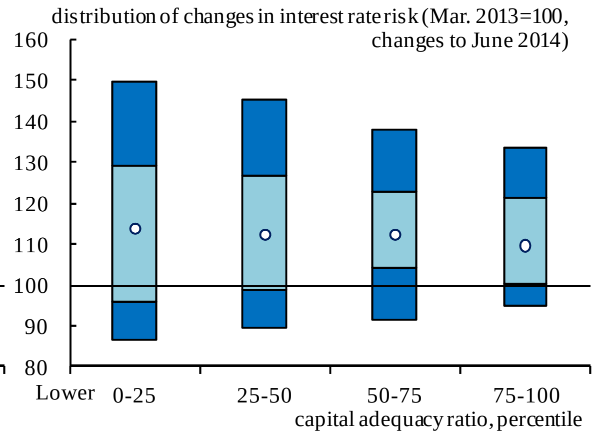
	Parallel shift scenario			Steepening scenario		
	End-Dec. 2013	End-Mar. 2014	End-June 2014	End-Dec. 2013	End-Mar. 2014	End-June 2014
Financial institutions	-7.5	-7.5	-7.6	-4.7	-4.7	-4.8
Banks	-5.6	-5.6	-5.6	-3.3	-3.3	-3.3
Major banks	-2.6	-2.6	-2.6	-1.3	-1.4	-1.3
Regional banks	-3.0	-3.0	-3.0	-2.0	-1.9	-1.9
Shinkin banks	-1.9	-1.9	-2.0	-1.4	-1.4	-1.5

Chart IV-2-8: Changes in interest rate risk and capital adequacy ratios among regional financial institutions

Regional banks



Shinkin banks



IV. Risks borne by financial institutions

B. Interest rate risk (3): Issues on interest rate risk

- **The amount of interest rate risk is at a relatively low level compared with that observed during the period until the end of March 2013. Nevertheless, due attention should be paid to the following two issues regarding risk management.**

  A. The amount of interest rate risk is still at a relatively high level compared to the past, even though it has decreased somewhat, and there are considerable dispersions in risk taking among individual financial institutions.

  - Financial institutions as a whole have maintained a prudent stance on further accumulation of a substantial amount of interest rate risk. However, not a small number of financial institutions with weak capital strength have increasingly accumulated interest rate risk.

  B. The volatility of interest rates has recently been at an extremely low level compared with the past.

  - Such low volatility might be one of the factors behind the increase in domestic bond investment.

- **Financial institutions need to set clear guidelines for their investment and management of interest rate risk, taking account of (i) the relationship between interest rate risk and their capital strength or profitability and (ii) the balance with other risks.**

IV. Risks borne by financial institutions

C. Market risk associated with stockholdings (1): Market risk associated with stockholdings

- **The amount of market risk associated with stockholdings at financial institutions as of the end of June 2014 was 12.3 tril. yen. Compared to 9.8 tril. yen as of the end of March 2013, the amount has increased by 25.4%. This increase is basically due to the rise in the market value of total stocks held by them.**
- **The fact that financial institutions have increased their investment in stock investment trusts has also led to the increase in the amount.**
  - The decrease in the amount of risk since the beginning of 2014 is mainly due to the decline in volatility of stock prices.

Chart IV-3-1: Market risk associated with stockholdings among financial institutions

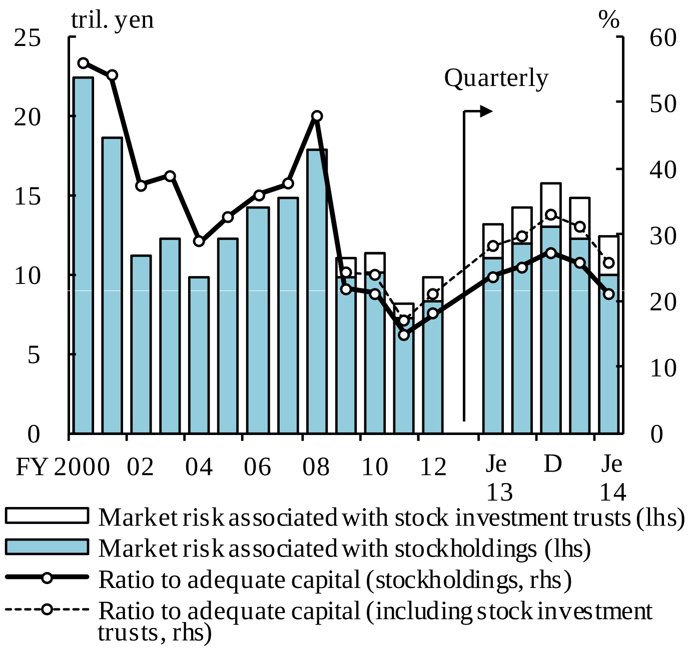
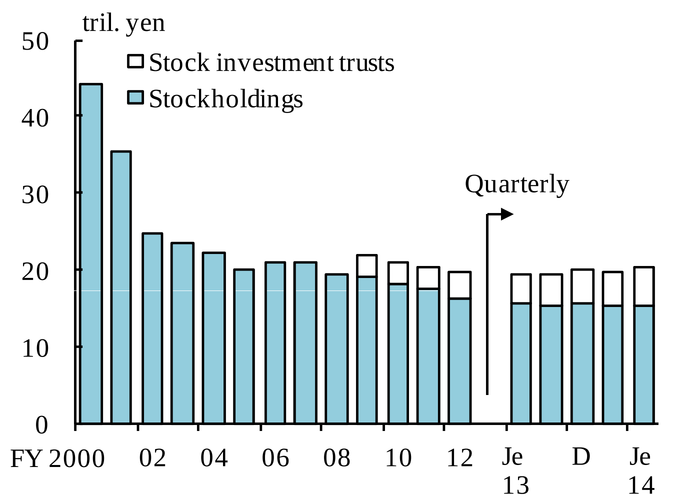


Chart III-1-32: Outstanding amount of stockholdings and stock investment trusts among financial institutions



C. Market risk associated with stockholdings (1): Issues on market risk associated with stockholdings

- **The amount of market risk associated with stockholdings has substantially decreased compared with past levels. Its volatility is still large, however. Financial institutions therefore need to manage their risks, taking into account the possibility that market risk associated with stockholdings will have considerable effects on their capital strength or profitability.**
  - Japanese banks have endeavored to reduce the amount of strategic stockholdings. As a result, the ratio of outstanding stockholdings to capital (book value-based) has declined from 1.3 at the end of fiscal 2000 to 0.4 at the end of fiscal 2013.
  - Some financial institutions with relatively low capital adequacy ratios have somewhat significantly increased their amount of market risk associated with stockholdings.
- **Strategic stockholdings are different from pure investment in stocks in that it is difficult for these to be sold flexibly in order to limit capital losses. Banks are required to continue efforts to steadily reduce the related risk, by appropriately assessing the relationship between market risk associated with stockholdings and capital condition, and the purpose of strategic stockholdings.**

Chart IV-3-4: Overall gains/losses on stockholdings and operating profits from core business among financial institutions

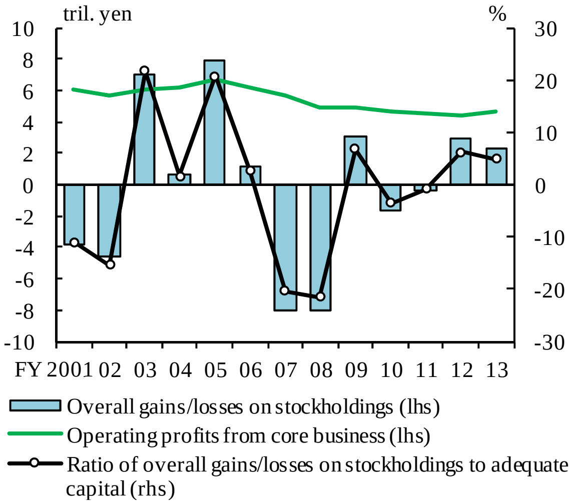
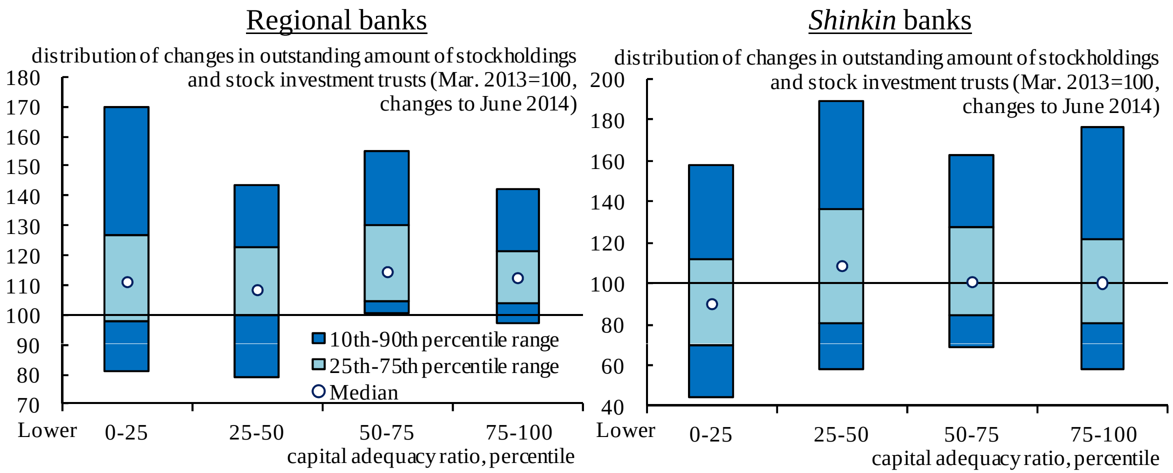


Chart IV-3-3: Changes in outstanding amount of stockholdings and stock investment trusts, and capital adequacy ratios among regional financial institutions



IV. Risks borne by financial institutions

D. Funding liquidity risk (1): Yen funding

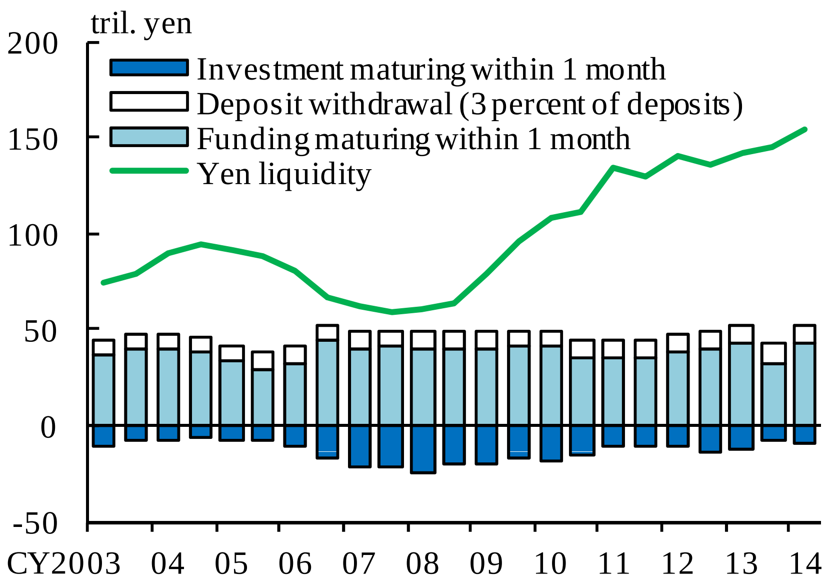
➢ **<u>The structure of investment and funding</u>:**

- **Stability is quite high, mainly because the majority of the funding source is a stable retail deposit, the outstanding amount of deposits is far larger than total loans outstanding, and a large part of the loan-to-deposit difference is invested in highly liquid securities such as JGBs or current account deposits at the Bank of Japan.**

➢ **<u>The resilience of yen-based funding against short-term stress</u> (assessed by assuming a stress scenario in which market funding comes to a complete halt for 1 month while there is a partial outflow of deposits, as is the concept of LCR ratio):**

- **Major banks have a sufficiently high level of resilience.**

Chart IV-4-1: Resilience to yen liquidity among major banks



IV. Risks borne by financial institutions

D. Funding liquidity risk (2): Foreign currency funding

➢ **<u>The structure of investment and funding</u>:**

- **A large part of funding is raised by short-term market funding, such as repos, foreign exchange swaps, and CDs and CP. Financial institutions have recently been taking measures to stabilize funding, such as issuing foreign currency-denominated corporate bonds, extending the maturity of market funding such as currency swaps, and broadening funding counterparties.**

➢ **<u>The resilience of foreign currency-based funding against short-term stress</u>:**

- **Financial institutions hold liquid assets to cover the outflow of funds expected under stress situations (approximately 1 month).**

Chart IV-4-2: Foreign currency funding among major banks

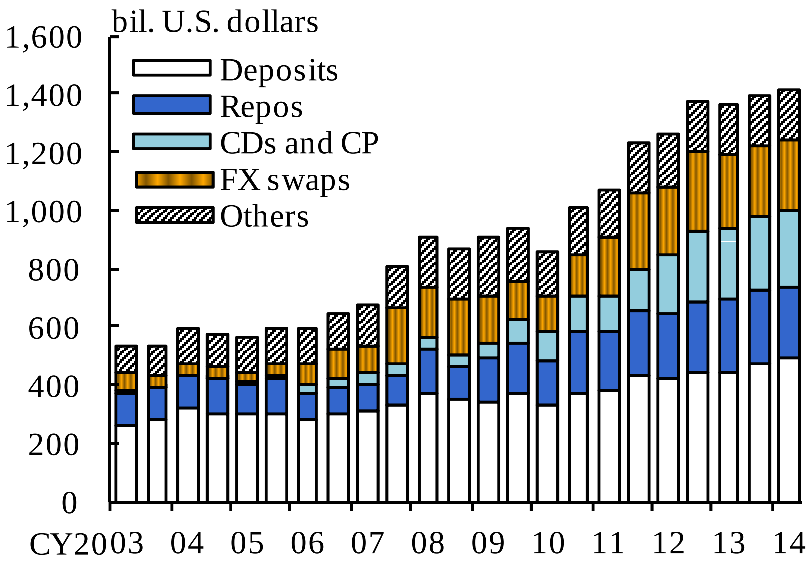
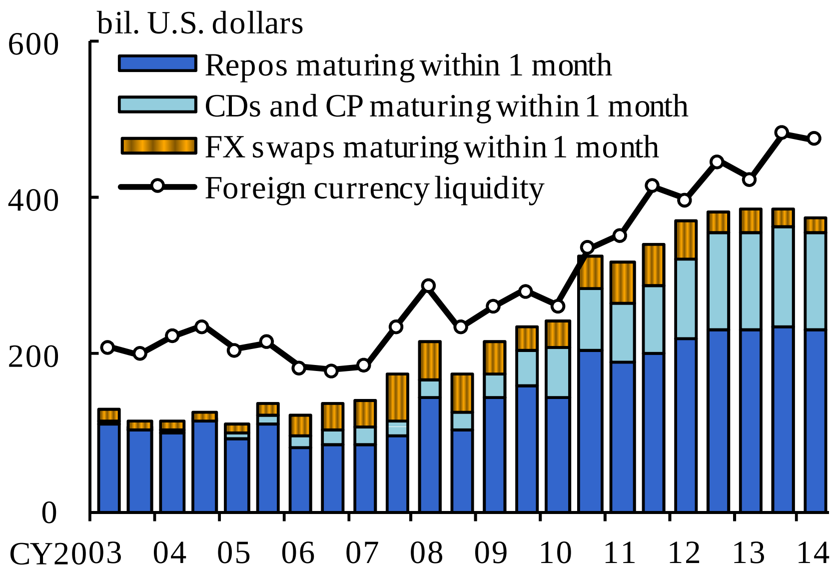


Chart IV-4-5: Resilience to foreign currency liquidity among major banks



IV. Risks borne by financial institutions

D. Funding liquidity risk (3): Issues on funding liquidity risk

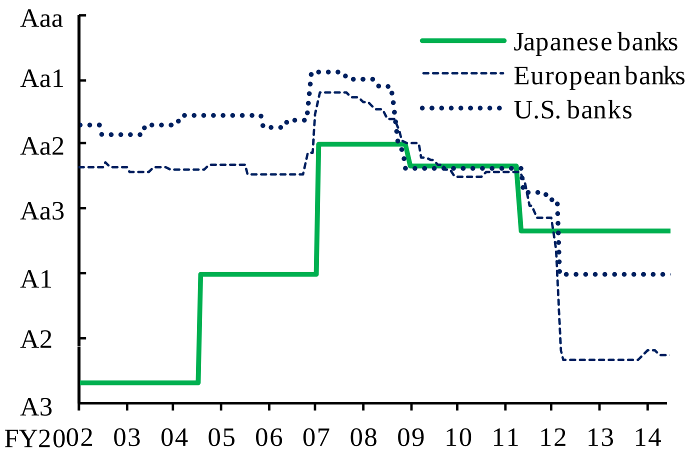
- **There is no significant concern regarding financial institutions' funding liquidity of yen and foreign currencies. The following two issues, however, should be noted in terms of management of foreign currency liquidity risk.**

(1) The stability of Japanese financial institutions' foreign currency funding is largely determined by the liquidity or functioning of funding markets.

- In funding markets, for most of the transactions to be made by a relatively small number of major financial institutions. It has also been pointed out that the introduction and implementation of various international financial regulations -- such as the Basel III regulatory requirements and derivatives regulations -- and regulations by individual countries -- such as the Volcker rule and regulations on foreign banks in the United States -- might affect market liquidity in the future.

(2) Financial institutions need to enhance their ability to appropriately manage the liquidity of individual currencies, such as the euro or Asian currencies.

Chart IV-4-6: Long term debt ratings of large banks



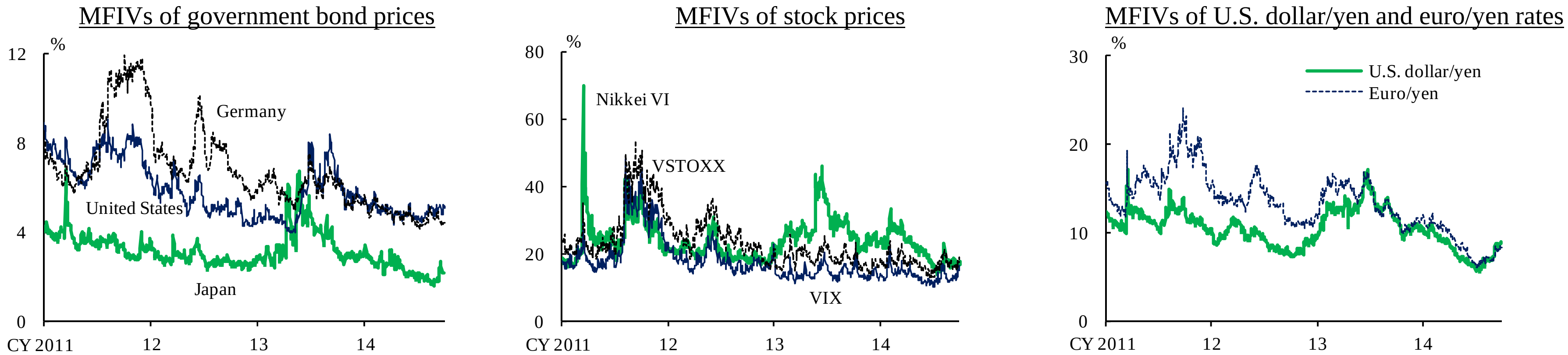
Source: Moody's.

V. Risks observed in financial markets

A. Global financial markets (1): Low volatility and "search for yields"

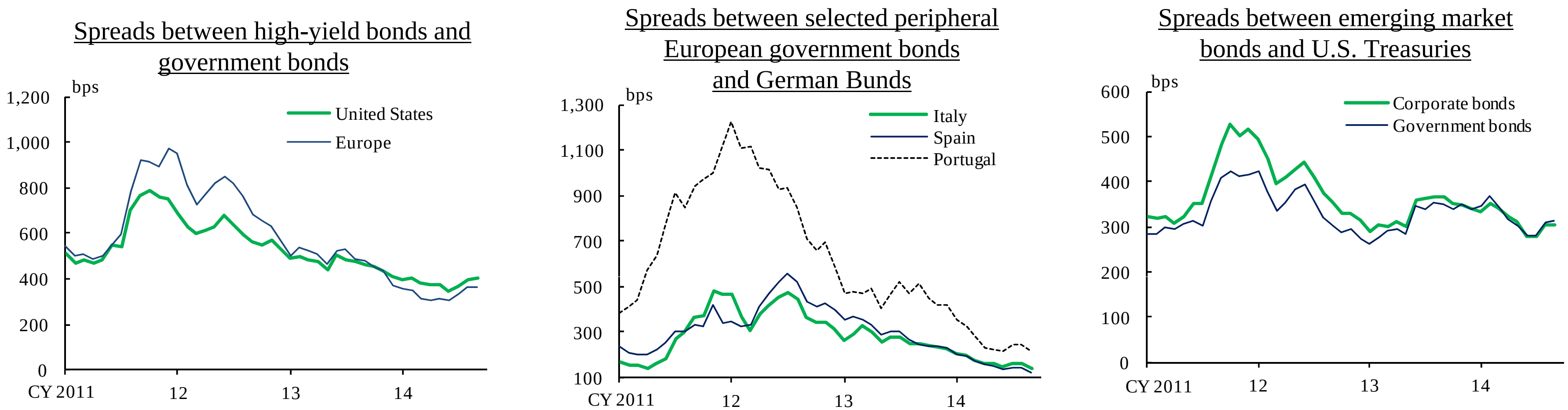
➢ **In global financial markets during the first half of FY2014, volatility followed a declining trend in a wide range of financial markets such as bond, stock, and foreign exchange markets. In this situation, search for yields by investors became increasingly notable, and yields and credit spreads on a wide range of assets.**

Chart V-1-1: Volatility in global financial markets



Sources: Bloomberg; BOJ.

Chart V-1-2: Credit spreads in global financial markets



Source: Bloomberg.

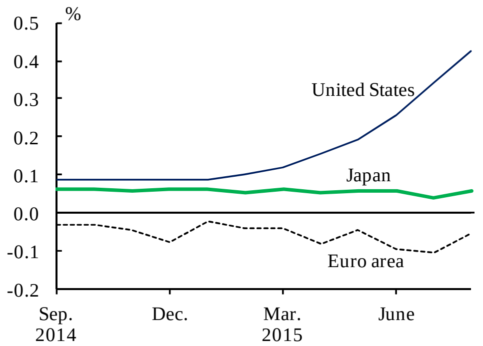
V. Risks observed in financial markets

A. Global financial markets (2): Risk factors

➢ **As for the outlook, the risk that market sentiment would change, thereby affecting the low-volatility environment, warrants caution. The first factor that may bring about such situation is the change in the outlook for the global real economy and monetary policy stance. In addition, market participants pay particular attention to (i) effects of geopolitical risks, (ii) deleveraging by banks in the euro area and prospects for the debt problem, and (iii) international capital flows and an increase in leverage observed in some areas.**

Chart V-1-3: Policy rate forecasts for major advanced countries

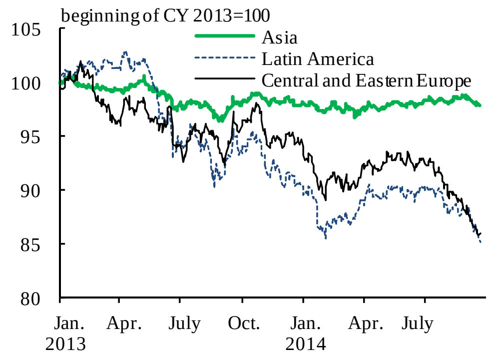
Forward rate curves



Source: Bloomberg.

Chart V-1-4: Developments in emerging markets

Exchange rates



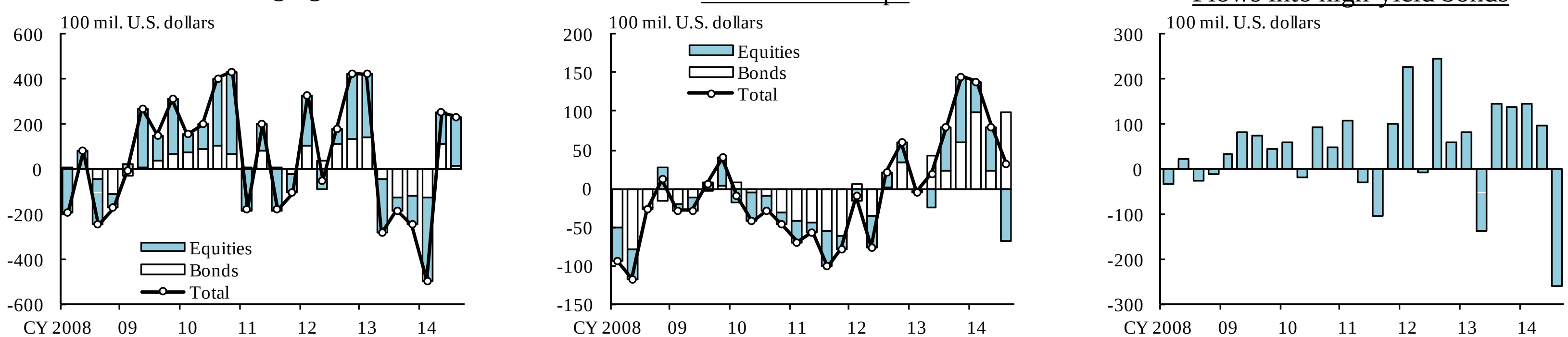
Sources: Bloomberg; BOJ.

Chart V-1-10: Fund flows

Flows into emerging markets

Flows into Europe

Flows into high-yield bonds



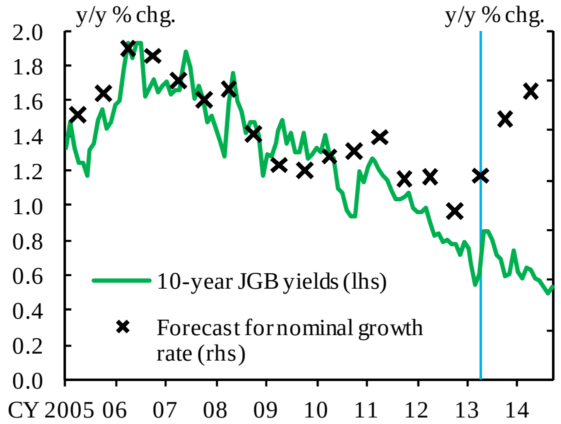
Source: EPFR Global.

V. Risks observed in financial markets

B. Japanese financial markets (1): Government bond markets

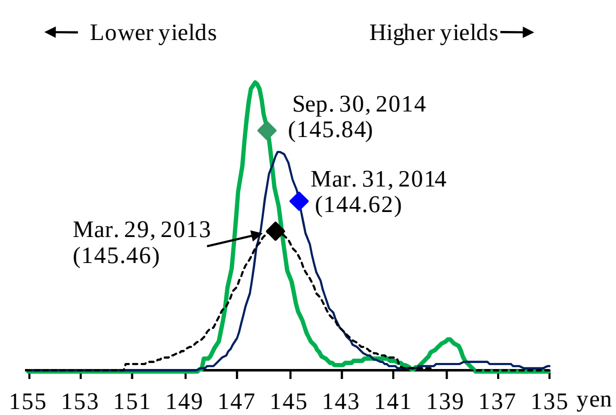
> ➢ **In the JGB market, long-term yields have been stable at low levels. The volatility of government bond prices rose somewhat toward the end of September 2014, but has continued to be at a low level.**
>
> - The skew of market participants' recognition of future risks shows that market participants remain somewhat vigilant to interest rate rise risks.

Chart V-2-6: Economists' expectations of nominal growth rate and long-term JGB yields



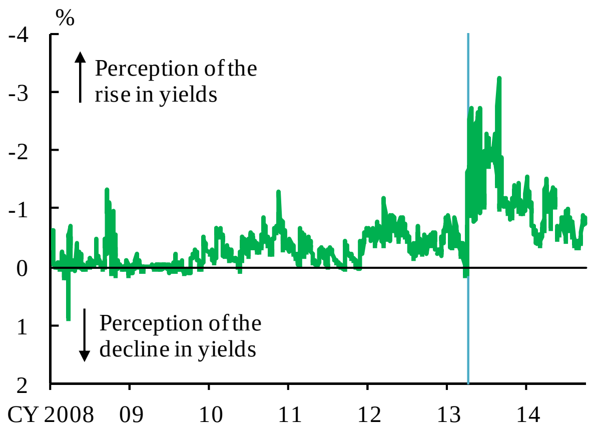
Sources: Bloomberg; Consensus Economics Inc., "Consensus Forecasts."

Chart V-2-8: Implied distribution of JGB futures



Sources: Bloomberg; BOJ.

Chart V-2-9: Risk reversals of JGB futures



Sources: Bloomberg; BOJ.

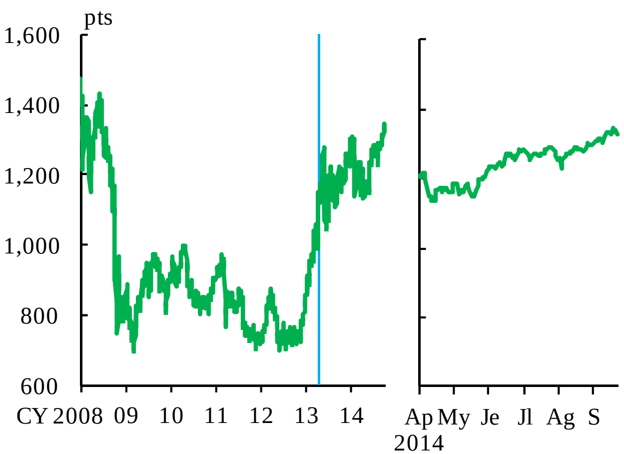
V. Risks observed in financial markets

B. Japanese financial markets (2): Stock markets

➢ **Japanese stock prices followed a moderate rising trend. The price earnings (P/E) ratio for Japanese stocks has been relatively low compared with the past, reflecting Japanese firms' improved profitability.**

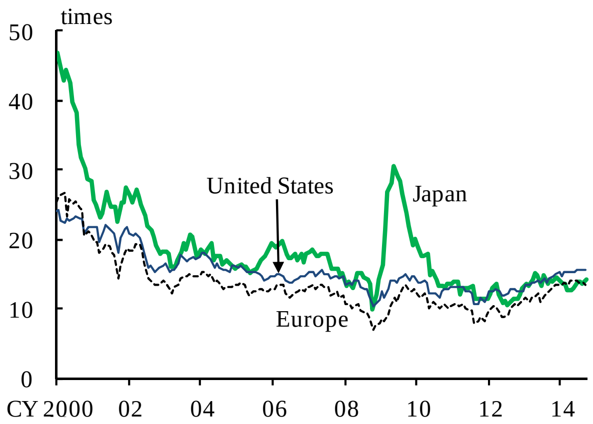
- Looking at trading by type of investor, foreign investors have still been net buyers. Trust banks have become net buyers for the first time in years.

Chart V-2-11: Stock prices (TOPIX)



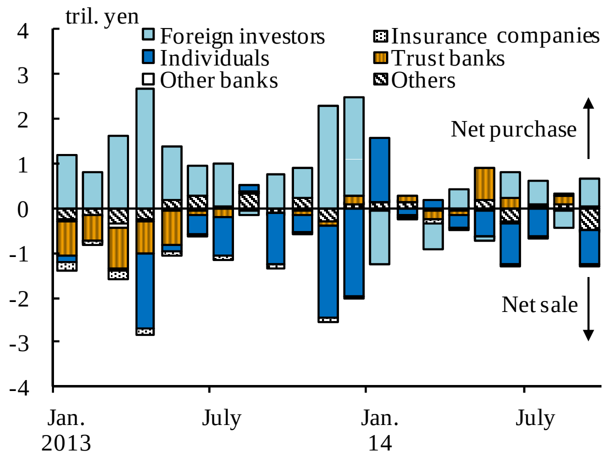
Source: Bloomberg.

Chart V-2-12: P/E ratios



Source: Thomson Reuters.

Chart V-2-14: Trading volume of Japanese stocks by type of investor

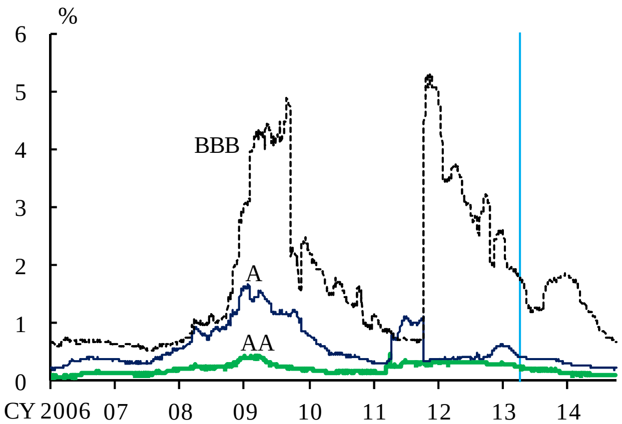


Source: Tokyo Stock Exchange.

B. Japanese financial markets (3): Credit markets

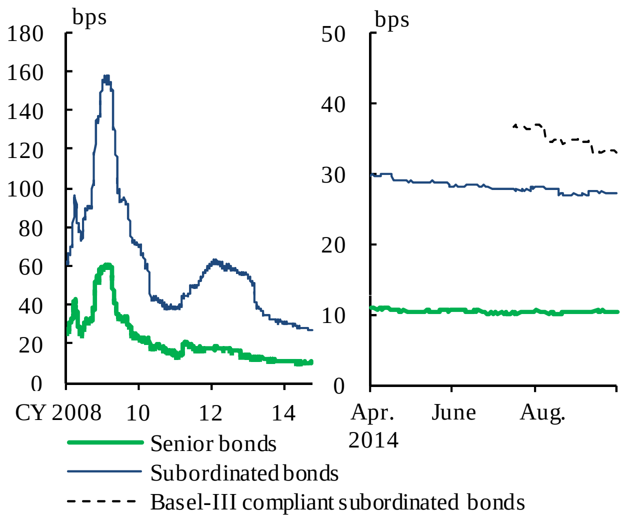
- **Credit spreads on corporate bonds, particularly on those rated BBB, have been following a narrowing trend.**
- **Regarding market participants' views on credit risk among major banks, credit spreads on senior bonds and subordinated bonds issued by banks have remained at low levels.**
  - Spreads between dollar funding costs in exchange for the yen and dollar LIBOR have remained at low levels compared with the past, although they widened somewhat toward the end of September 2014.

Chart V-2-15: Yield spreads between corporate bonds and JGBs



Source: Japan Securities Dealers Association.

Chart V-2-18: Yield spreads between bank corporate bonds and JGBs



Sources: Japan Securities Dealers Association; QUICK.

Chart V-2-20: Spreads between FX swap-implied U.S. dollar funding rate from the yen and LIBOR

Source: Bloomberg.

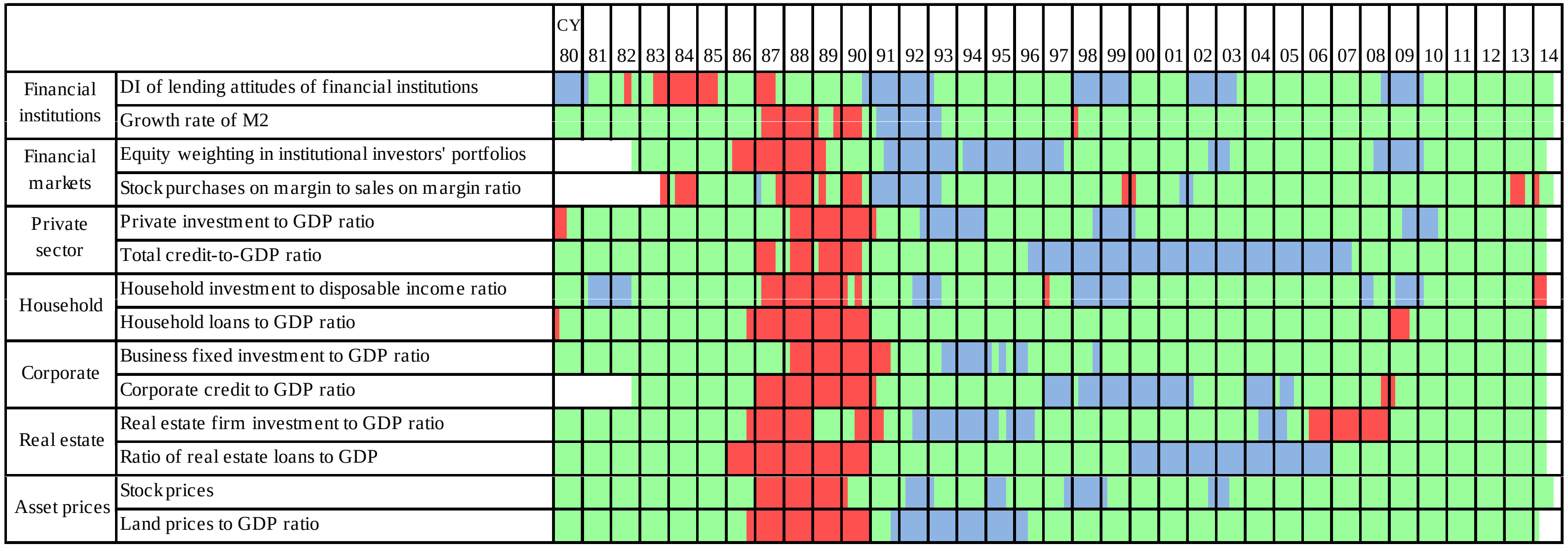
VI. Risk assessment of the financial system from a macroeconomic perspective

A. Macro risk indicators

➢ **The FAIXs, including the total credit-to-GDP ratio, currently show no signs of overheating in financial intermediation.**

- The FAIXs consist of 14 financial indicators. FAIXs identify signs of overheating by examining the deviation of individual indicators from their trends. We select as FAIXs indicators that are appropriate in assessing whether financial imbalances similar to those observed during Japan's bubble period have arisen.
- No solid evidence of instability in the financial system is currently observed in Financial Cycle Indexes and systemic risk indicators.

Chart VI-1-3: Heat map of Financial Activity Indexes



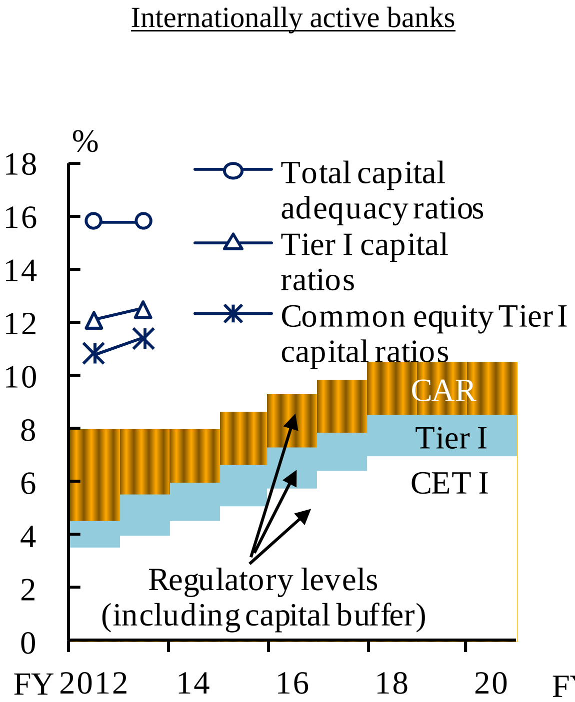
Sources: Bloomberg; Cabinet Office, "National accounts"; Japan Real Estate Institute, "Urban land price index"; Ministry of Finance, "Financial statements statistics of corporations by industry"; Tokyo Stock Exchange, "Outstanding margin trading"; BOJ, "Flow of funds accounts," "Loans and bills discounted by sector," "Money stock," "*Tankan*."

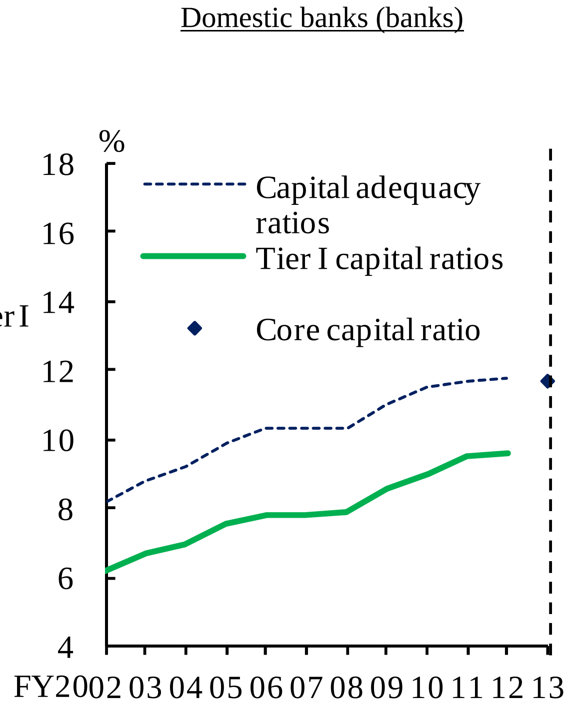
VI. Risk assessment of the financial system from a macroeconomic perspective

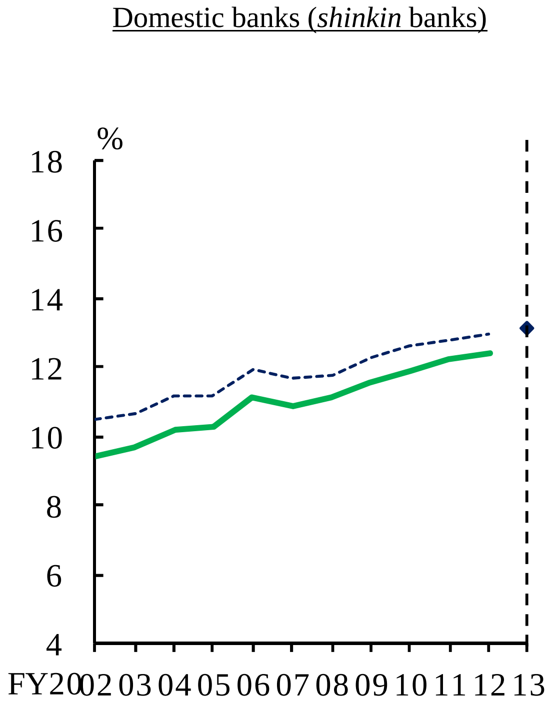
B. Financial institutions' capital adequacy (1): Capital adequacy ratio

➢ **Financial institutions' capital adequacy ratios for both internationally active banks and domestic banks are well above regulatory levels.**

Chart VI-2-1: Capital adequacy ratios





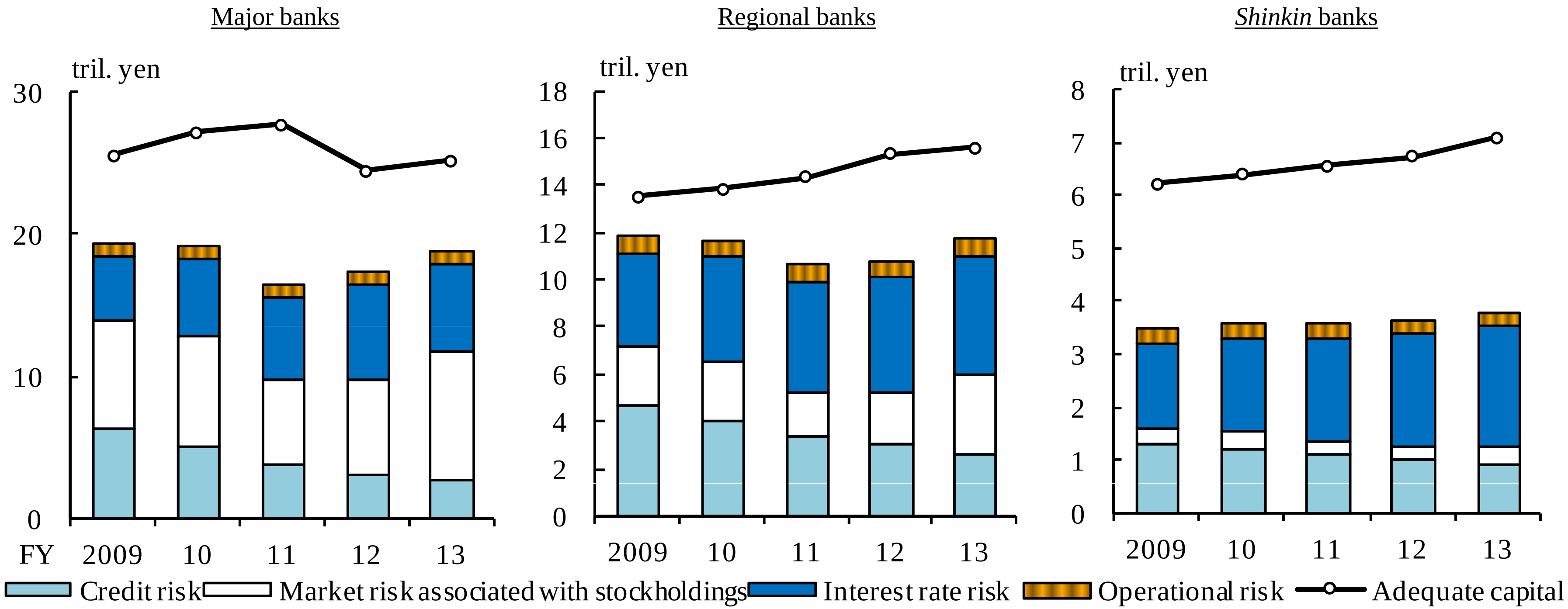


VI. Risk assessment of the financial system from a macroeconomic perspective

B. Financial institutions' capital adequacy (2): Capital adequacy relative to the amount of risk

- **Financial institutions' capital has generally been at an adequate level relative to the amount of risk.**
  - The pace of increase in the total amount of risk is more or less in line with that of the increase in capital.
- **Against this background, the ability of financial institutions to absorb losses and take on risks generally seems to remain at a high level. However, financial institutions with relatively low levels of capital adequacy need to appropriately manage the balance between capital and the amount of risk.**

Chart VI-2-4: Risks and adequate capital by type of bank



VI. Risk assessment of the financial system from a macroeconomic perspective

(Box 4) Refinement of the Financial Macro-econometric Model

- **We refine the model (FMM) in the following two points:**

  (1) More direct incorporation of the effects of an economic downturn stemming from overseas economies on overseas loans.

  (2) Incorporation of the impact of deterioration in loan quality due to an economic downturn in the form of an increase in risk weight.

Chart B4-2: Overseas loans in economic downturn scenario (this *Report*)

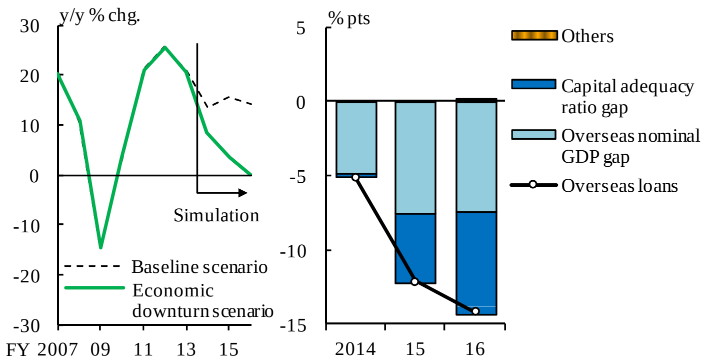


Chart B4-1: Overseas loans in economic downturn scenario (April 2014 issue of the *Report*)

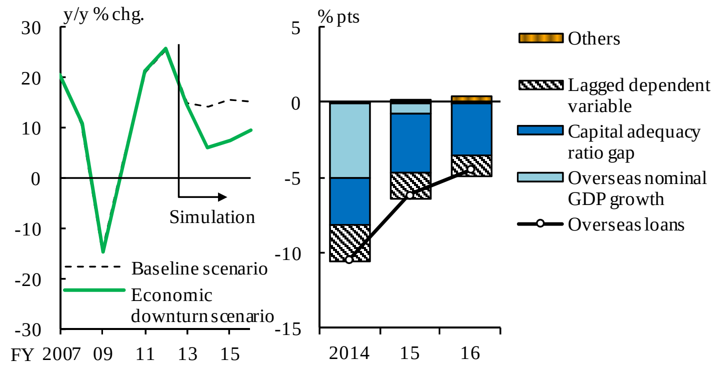


Chart B4-4: Determinants of credit risk assets (economic downturn scenario)

Internationally active banks Domestic banks

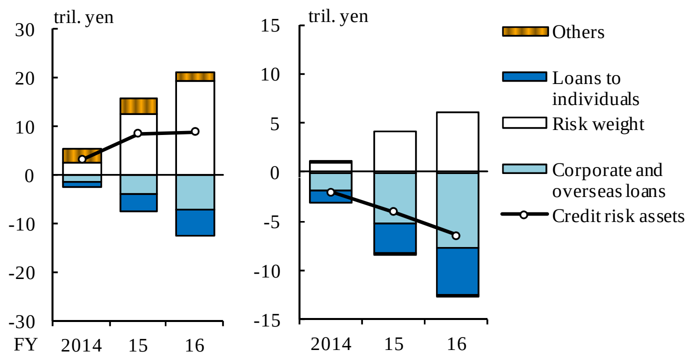
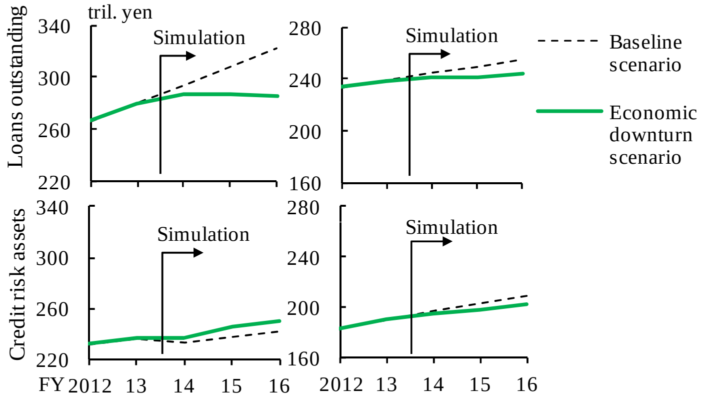


Chart B4-5: Credit risk assets and loans outstanding

Internationally active banks Domestic banks



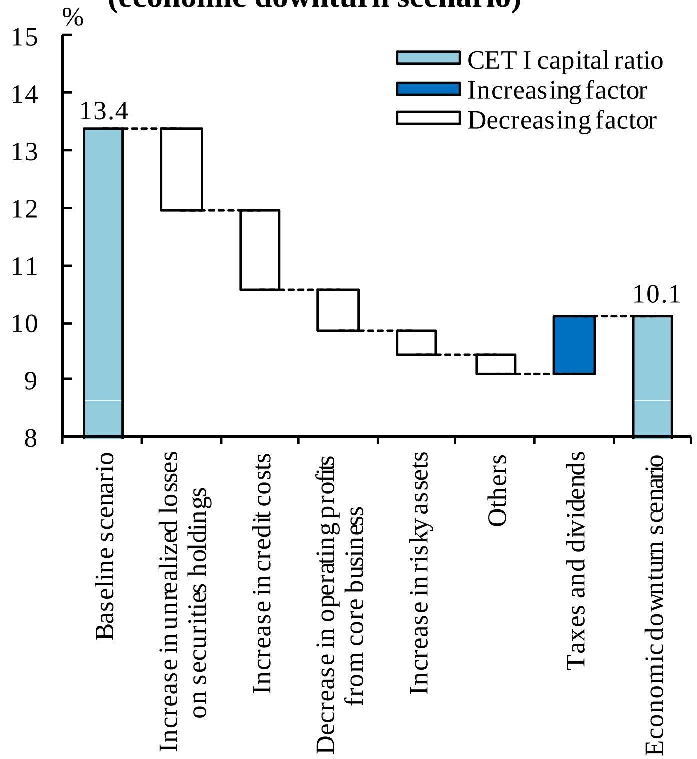
VI. Risk assessment of the financial system from a macroeconomic perspective

C. Macro stress testing: Economic downturn scenario (1) (internationally active banks)

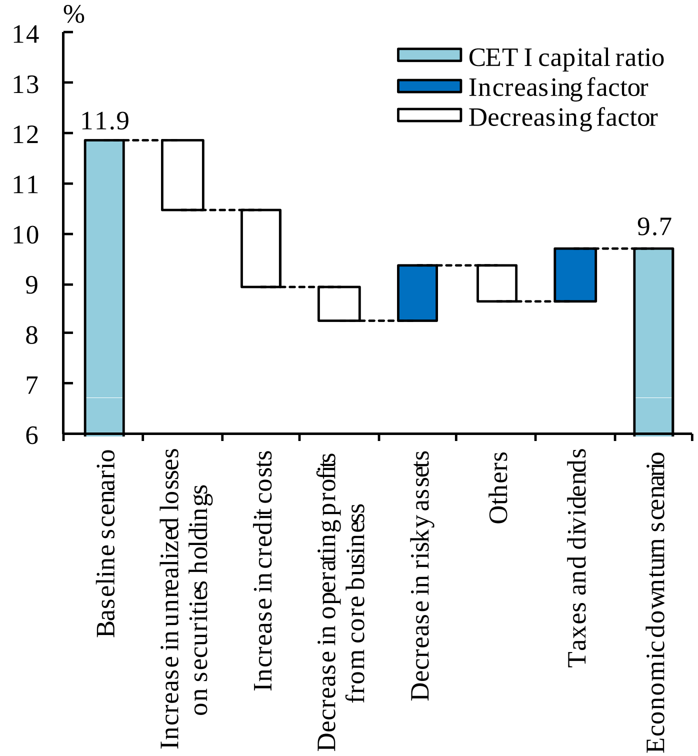
➢ **Even in the scenario of an economic downturn of approximately the same magnitude as that observed at the time of the Lehman shock in the latter half of FY2014, internationally active banks' CET I ratios in FY2016 are maintained above regulatory levels.**

- **As a result of the improvement of FMM, the impact of stress becomes larger than previous issues of the *Report*, because the deterioration in loan quality stemming from an economic downturn lowers capital adequacy ratios by the increase in credit risk assets.**

Chart VI-3-6: Decompositions of the CET I capital ratio (economic downturn scenario)



(Reference) April 2014 issue of the *Report*



VI. Risk assessment of the financial system from a macroeconomic perspective

C. Macro stress testing: Economic downturn scenario (2) (domestic banks)

- **In the same scenario, domestic banks' core capital ratios in FY2016 are maintained above regulatory levels on the whole.**
  - **However, some domestic banks' rates of decline in core capital ratios are relatively large.**

Chart VI-3-6: Decompositions of the core capital ratio (economic downturn scenario)

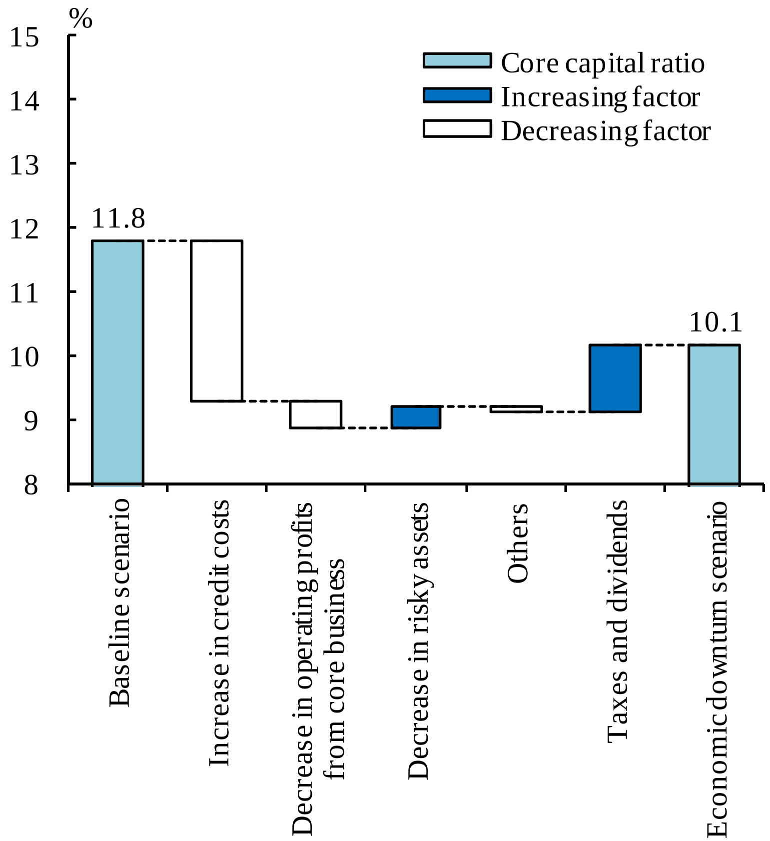
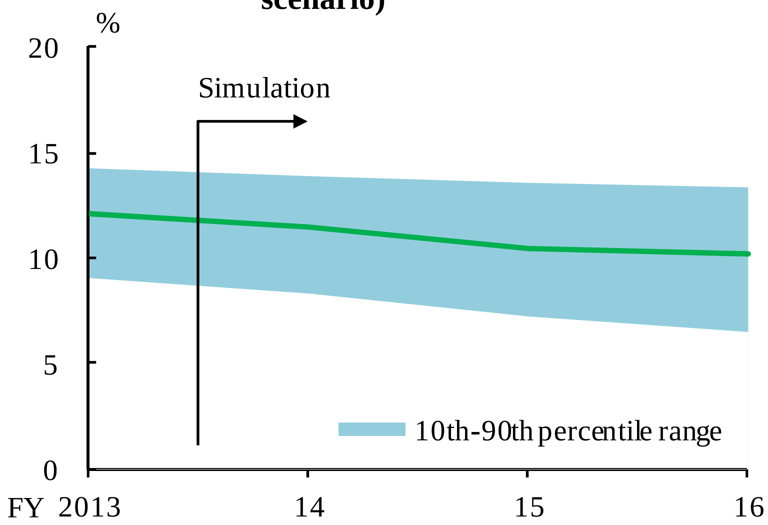


Chart VI-3-7: Domestic banks' core capital ratio distribution (economic downturn scenario)

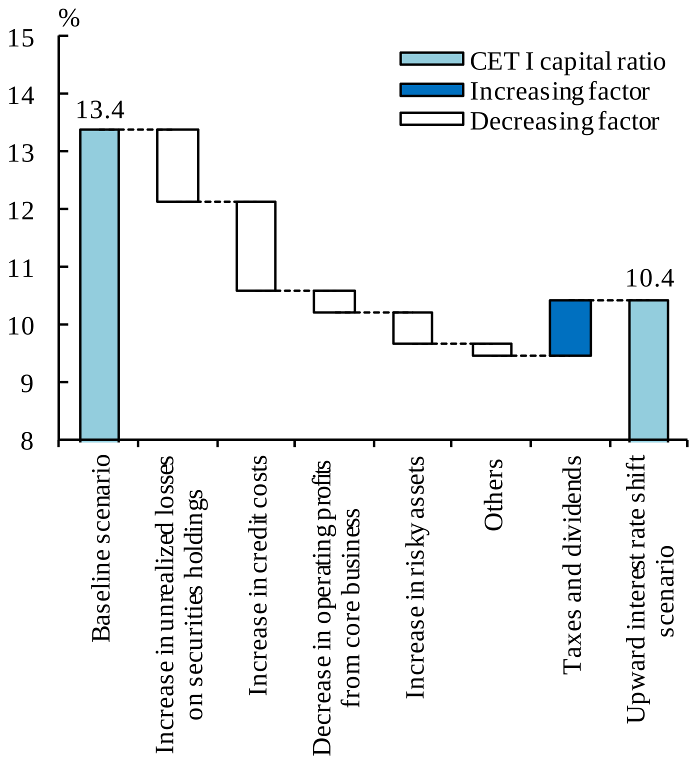


VI. Risk assessment of the financial system from a macroeconomic perspective

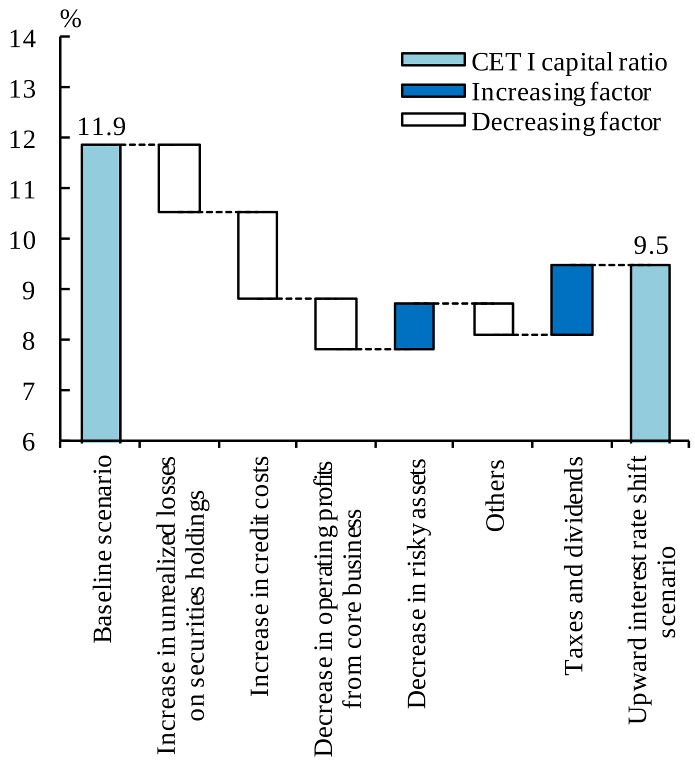
C. Macro stress testing: Upward interest rate shift scenario (1) (internationally active banks)

➢ **Even in the scenario of an approximately 2%pt rise in long-term interest rates with an economic downturn at the beginning of the October-December quarter of 2014, internationally active banks' CET I ratios in FY2016 are maintained above regulatory levels.**

Chart VI-3-15: Decompositions of the CET I capital ratio (upward shift of interest rates with economic downturn)



(Reference) April 2014 issue of the *Report*



VI. Risk assessment of the financial system from a macroeconomic perspective

C. Macro stress testing: Upward interest rate shift scenario (2) (domestic banks)

➢ **In the same scenario, domestic banks' core capital ratios in FY2016 are maintained above regulatory levels on the whole.**

- **However, some domestic banks' rates of decline in core capital ratios are relatively large.**

Chart VI-3-15: Decompositions of the core capital ratio (upward shift of interest rates with economic downturn)

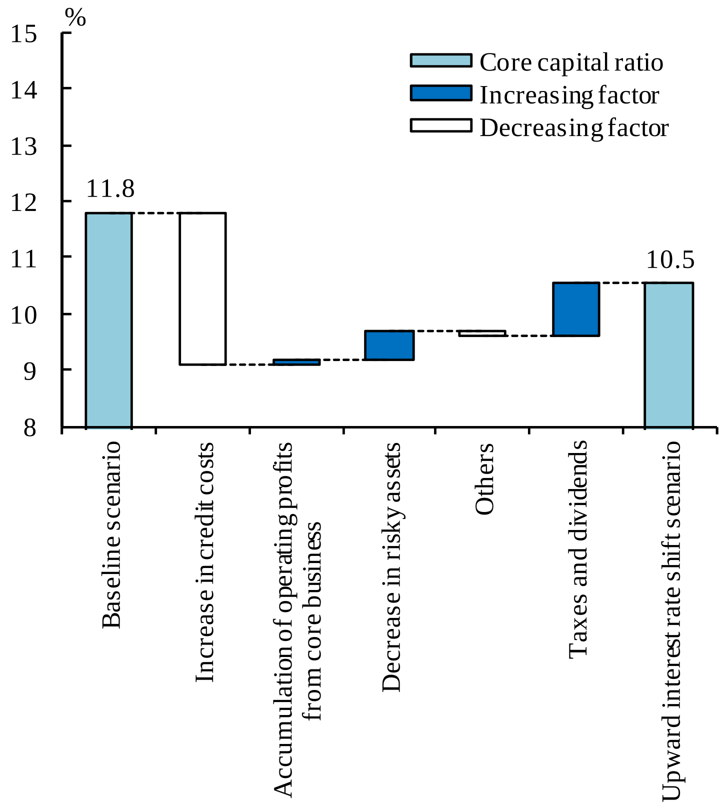
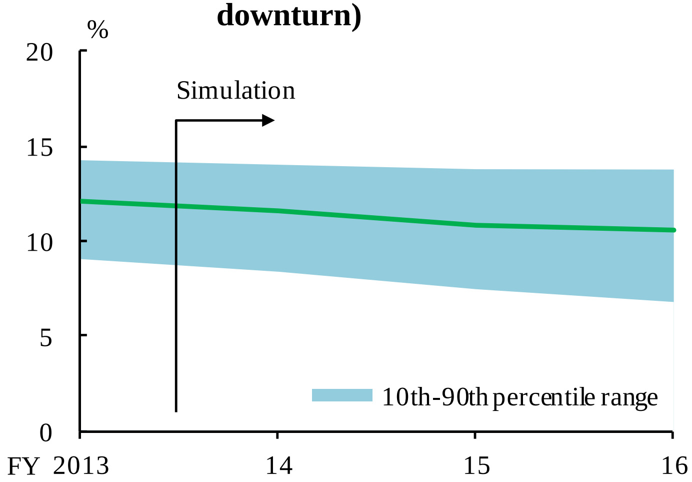


Chart VI-3-16: Domestic banks' core capital ratio distribution (upward shift of interest rates with economic downturn)



A 2 percentage point rise in long-term interest rates is a considerably strong stress, even compared to the Trust Fund Bureau shock in 1999 (a 1.7 percentage point rise in approximately 4 months) and the VaR shock in 2003 (a 1.2 percentage point rise in approximately 3 months).

VI. Risk assessment of the financial system from a macroeconomic perspective

C. Macro stress testing: Issues on interpreting the results of macro stress testing (1)

- **The above results suggest that Japan's financial system generally has strong resilience against various stresses. However, the following four issues should be noted in interpreting the test results.**

  (1) It is possible that economic or financial shocks affect the stability of the financial system, depending on their speed and extent as well as the factors behind them.

  - **For example, if risk is accumulated under a continuation of low volatilities, the negative impact might be intensified by the concentration of unwinding or the adverse feedback loop between the financial system and the real economy, depending on the situation.**

  (2) Although the financial system as a whole would not suffer from capital shortage, the capital of some individual banks would be considerably affected. The stress testing in this *Report* assumes that the functioning of financial intermediation will not be constrained as long as capital adequacy ratios exceed regulatory levels. In reality, however, the functioning of financial intermediation, may undergo changes at an earlier stage, for example, when financial institutions record net losses in their financial statements.

  (3) The stress testing in this *Report* is based on the new regulatory requirements, which do not count unrealized losses on securities holdings in calculating capital for domestic banks.

  - **In reality, it is possible that even domestic banks need to be aware of the effects of unrealized losses on their balance sheet strength, depending on their magnitude, since unrealized losses are disclosed such as in financial results.**

VI. Risk assessment of the financial system from a macroeconomic perspective

C. Macro stress testing: Issues on interpreting the results of macro stress testing (2)

(4) A rise in interest rates reflecting improvement in economic conditions does not become a threat to the financial system, as it leads to an improvement in financial institutions' profit level.

Chart VI-3-19: Determinants of comprehensive income ROA (upward shift of interest rates with economic improvement)

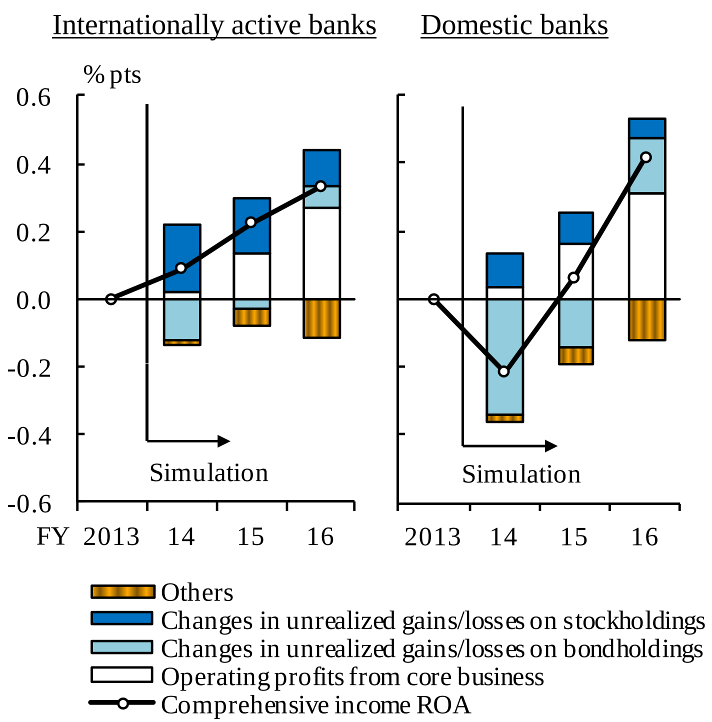
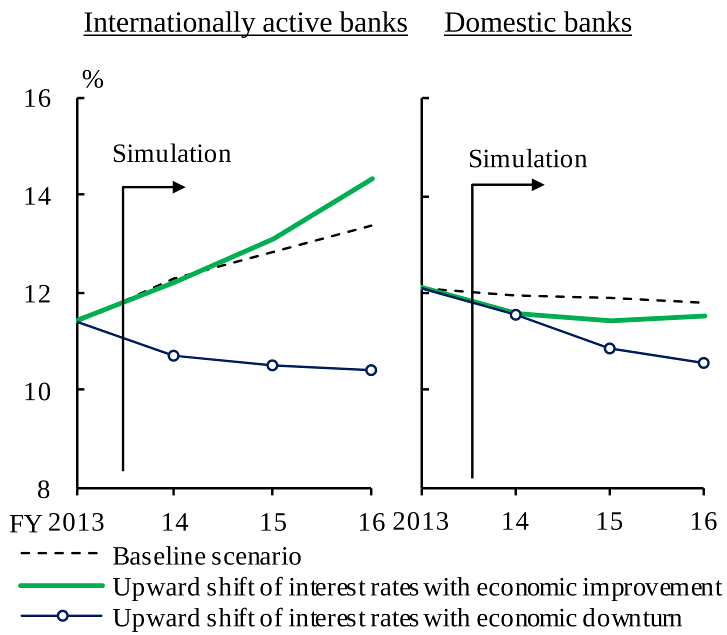


Chart VI-3-14: CET I capital ratio and core capital ratio (upward interest rate shift scenarios)



(Box 5) Effects of shifts in deposits in the event of rises in interest rates

- **During a phase of interest rate rises, shifts in funds from ordinary deposits to time deposits increase financial institutions' funding costs, partly because of the increase in pass-through rates of deposit rates to market interest rates.**
  - **In this case, shifts in deposits could depress financial institutions' profits. During the previous phase of interest rate rises (2006-08), the share of time deposits in total deposits (the time deposit ratio) had been increasing.**

Chart B5-1: Year-on-year rate of change in outstanding amounts of banks' ordinary deposits and time deposits

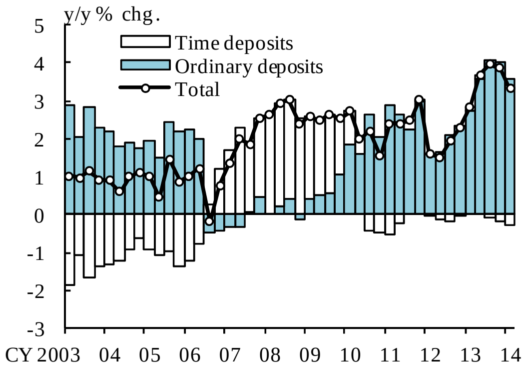


Chart B5-3: Pass-through of banks' ordinary deposit rates and time deposit rates

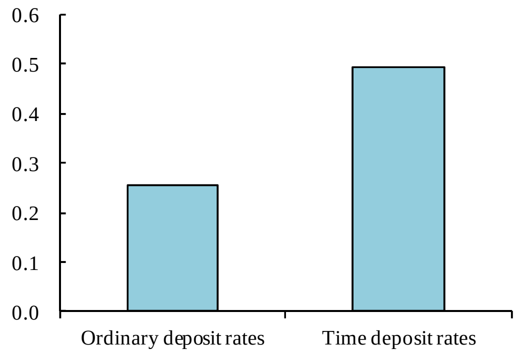
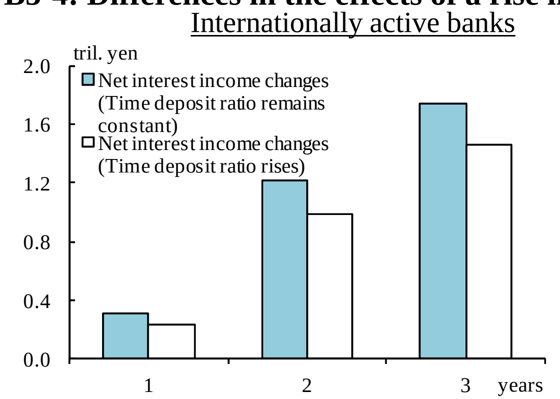
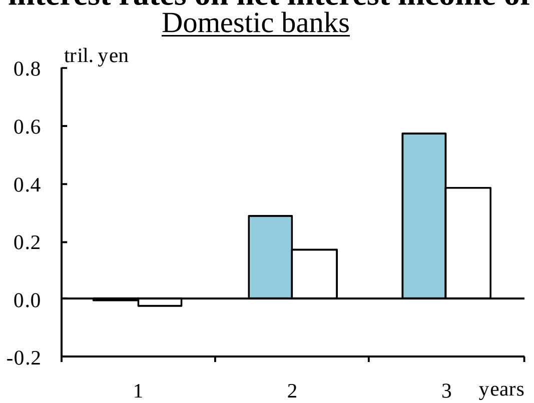


Chart B5-4: Differences in the effects of a rise in interest rates on net interest income of banks





VII. Toward ensuring financial stability in the future

1. Changes in the environment surrounding the financial system (1): Expected future changes

- **Based on the assessment in the previous chapters, Japan's financial system has been maintaining stability, and financial intermediation has operated more smoothly than before. The system generally has strong resilience against stresses, equipped with an adequate capital base as well as high risk-taking capacity.**

- **Looking into the future, the financial and economic environment will continue to change constantly both at home and abroad, transforming the financial system's risk profile.**
  - As the on-going globalization of the economy and the transformation of industrial structures being promoted by the government and the private sector -- at both the national and regional levels – progress further, the financial intermediation function of and risks borne by the financial system will change both in terms of quality and quantity.
  - Japan's growth potential and the future course of its economic and price developments will affect financial institutions' investment stance and performance in securities investments through interest rates and stock prices.
  - Search for yields by investors in the global financial markets has been increasingly notable, and its effects are likely to spread to Japanese markets through various channels, depending on future developments.

- **In addition, (i) a prolongation of declining trend in financial institutions' profitability and (ii) the strengthening of overseas connections of Japan's financial system might affect the stability and functioning of the financial system.**

VII. Toward ensuring financial stability in the future

1. Changes in the environment surrounding the financial system (2): Decline in profitability

- **The narrowing trend in financial institutions' interest rate spreads on domestic loans and <u>the declining trend in their profitability</u> continue.**
- **On their balance sheet, the <u>"deposit surplus"</u> -- in which the amount of deposits largely exceeds that of loans -- <u>continues to be observed</u>.**
- **These are macroeconomic developments that have taken root during the protracted period of economic stagnation and deflation. No significant change has been observed so far, although the economy has recently been recovering moderately.**
- **If these developments are prolonged further, they could constrain financial institutions' capacity to absorb losses and to take risks.**

Chart VII-1-1: Interest rate spreads on loans and net interest income by type of bank (Domestic business sector)

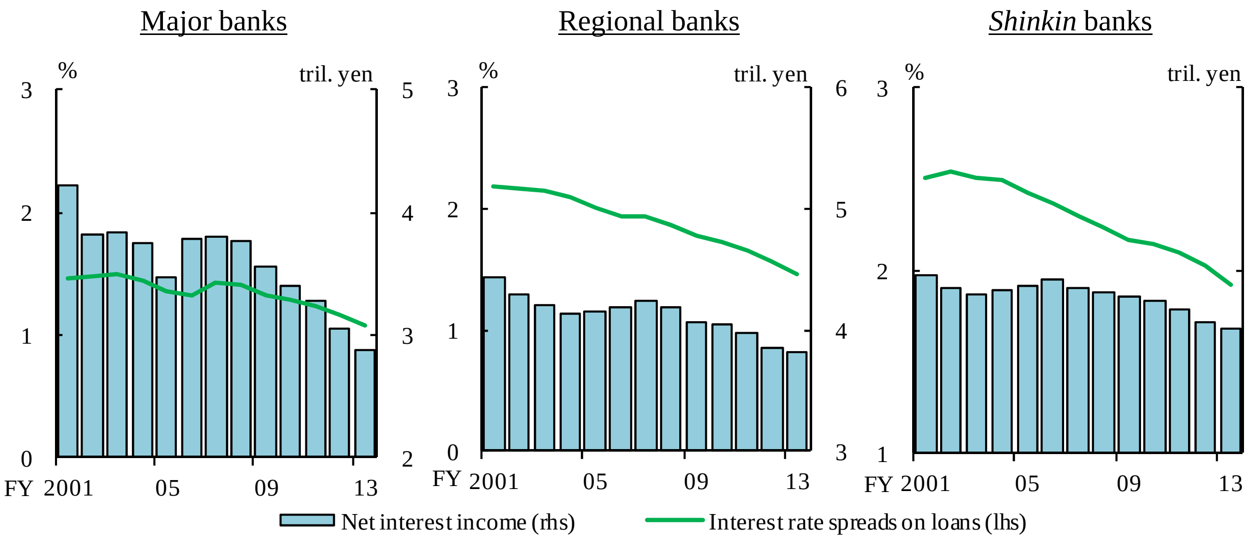
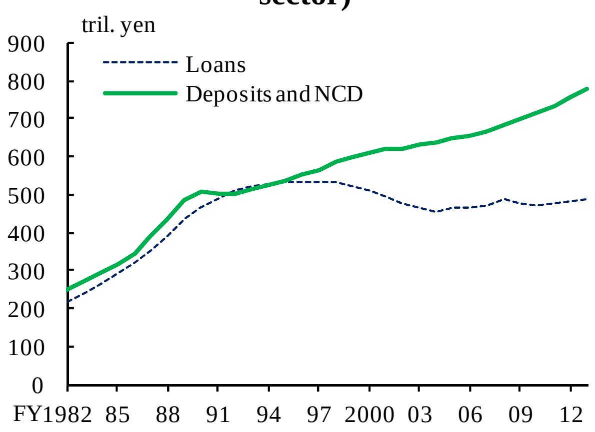


Chart VII-1-2: Loan-to-deposit difference among financial institutions (Domestic business sector)

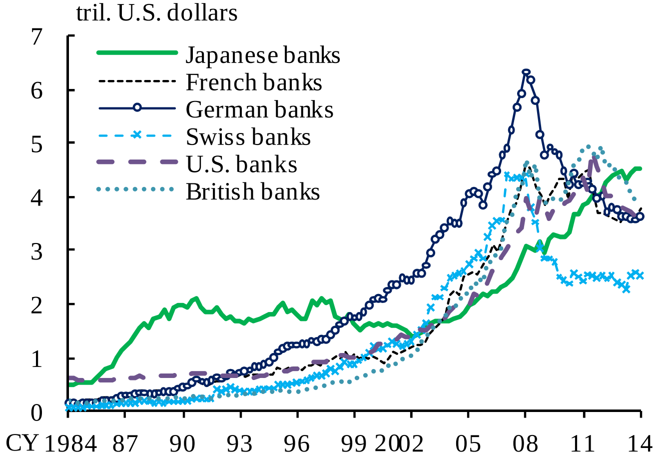


VII. Toward ensuring financial stability in the future

1. Changes in the environment surrounding the financial system (3): Strengthening of overseas connections

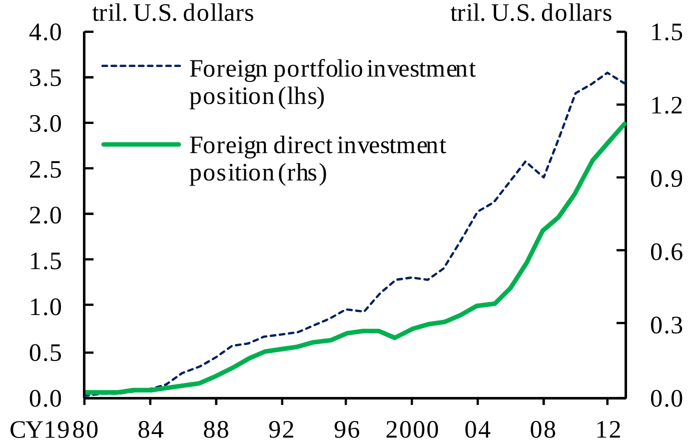
- **Japan's financial system has been strengthening its overseas connections through an expansion of overseas operations by Japanese financial institutions and an increase in cross-border capital flows by domestic and foreign investors. These developments contribute to improving the efficiency of fund allocation and strengthening the financial system's resilience against financial and economic shocks that occur in Japan.**
- **At present, the Financial Stability Board (FSB) and the Basel Committee on Banking Supervision (BCBS) in particular are proceeding with international regulatory reforms to enhance the robustness of the global financial system, while authorities are moving forward with structural reforms of the banking sector and the development of resolution system.**
- **With these changes in the regulatory environment, business models and risk profiles of internationally active banks as well as the functions and structure of the global financial system will undergo a significant transformation in the future. Such changes abroad will also have effects on Japan's financial system.**

Chart VII-1-4: International comparison of cross-border claims outstanding



Source: BIS, "Locational banking statistics."

Chart VII-1-5: Foreign direct and portfolio investment



Source: Ministry of Finance, "International investment position."

VII. Toward ensuring financial stability in the future

2. Management challenges for financial institutions (1)

➢ **Based on the above considerations and from the viewpoint of ensuring financial stability in the future, the following three points can be raised as key management challenges for financial institutions.**

(1) The enhancement of the financial intermediation function and the strengthening of financial tools as well as risk management to make this possible.

- **Financial institutions are expected to respond to a growing demand for funds associated with economic recovery as well as to contribute to enhancing the vitality of national and regional industries.**
- **Activities such as investments and loans in growing businesses, private finance initiatives (PFIs) and public-private partnerships (PPPs), financial support for business reconstruction of large firms or the revitalization of small and medium-sized firms, and the spurring of industrial restructuring, will enhance the profitability of and improve the quality of financial institutions' assets in the medium term. In order to promote these efforts vigorously, financial institutions need to improve their financial tools and capacity to support businesses, and need to assess and manage these risks and costs in an appropriate manner.**

Japan's economy faces a declining and aging population, whose effects on regional economies are particularly evident. However, financial institutions can contribute to enhancing the vitality of regional industries by helping these sectors grow or by realizing the reallocation of resources.

(i) Some industries that will grow in an aging society, such as health care, welfare, and other services.

(ii) Some industries, besides manufacturing, which could grow by meeting demand arising outside the country or region, such as tourism, agriculture, and environment and energy.

(iii) Some sectors that could create new business opportunities for the private sector, such as the renewal and rebuilding of public infrastructures.

VII. Toward ensuring financial stability in the future

2. Management challenges for financial institutions (2)

(2) The securing of a stable foreign-currency funding base and the strengthening of credit management and other functions in step with expanding overseas operations.

- **Financial institutions are expanding their overseas operations with a view to supporting global operations of Japanese firms and meeting local financial needs. Japanese firms' expansion of overseas operations and the associated increase in financial needs are expected to continue.**

  (i) Financial institutions must appropriately manage foreign-currency liquidity risks, including local currencies, and secure a stable funding base to enable them to deal with growing business operations in the future.

  (ii) Financial institutions need to strengthen their capacity to manage credit and business risks overseas, based on a broad perspective, taking into account differences in systems and infrastructure among countries as well as their country risks.

- **Large financial institutions that conduct business operations globally have a significant impact on the stability and functioning of the financial system as a whole. While appropriately responding to structural changes in the international regulatory environment and in the global financial system, these institutions need to secure a robust financial base and build resilience against stresses.**

(3) The establishment of clear guidelines for asset-liability management (ALM) and the execution of appropriate risk taking as well as management.

- **Because the deposit surplus situation is likely to continue for some time, securities investment continues to hold great significance. Since 2013, financial institutions have been reviewing their risk balance by, for example, limiting the buildup of interest rate risks and increasing investment in investment trusts and foreign securities. Nevertheless, yen-denominated bonds continue to hold the central position in financial institutions' securities investment, and risk associated with yen interest rates is still at a high level.**

  (i) Financial institutions need to establish clear guidelines on securities investment and on interest rate risk management, and to examine on a corporate-wide basis the impact of the guidelines on their financial positions as well as their policy on practical responses under various scenarios.

  (ii) It would also be useful to examine the ALM from a broad perspective, including the outstanding amounts of loans and deposits, their composition and interest rates, the optimal form of strategic stock investment, and the absorption of funds by financial products other than deposits.