

Financial
System
FSR Report

Summary

April 2015
Bank of Japan



Features of this *Financial System Report*

(Comprehensive assessment: unchanged)

"Japan's financial system has been maintaining stability. Financial intermediation has operated more smoothly than before."

(Major changes from the previous *Report*)

Financial intermediary activities

1. Financial institutions enhanced their risk-taking stance in terms of domestic and overseas lending as well as securities investment.
 2. Households and institutional investors gradually proceeded with a shift from safe assets to other types of risky assets regarding their asset portfolio choices and investments, respectively.
 3. Domestic stock prices have clearly risen, and real estate transactions have been actively undertaken, albeit with regional differences.
- Financial intermediation as a whole has operated more smoothly than before, although signs of financial imbalances such as indications of overheating or excessively bullish expectations have not been observed.

Financial institutions' financial bases (i.e., capital, funding liquidity)

4. Financial institutions continued to accumulate capital, mainly due to the increase in retained earnings, and unrealized gains on securities increased, due primarily to a rise in stock prices.

→ The macro risks to which financial institutions are exposed and their financial bases are well balanced. Therefore, Japan's financial system generally has strong resilience, measured by its loss absorption capacity and liquidity buffers, against stresses.

Market developments

5. Commodity prices declined substantially, and volatility in global financial markets has risen across a wide range of instruments. The rise in market volatility has spilled over into the domestic markets to some extent.

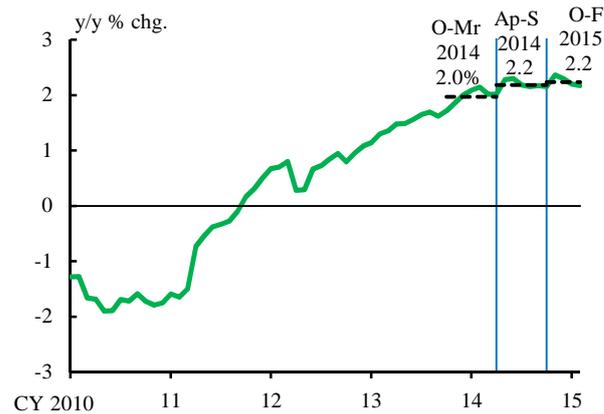
(Editorial and analytical features)

- Clearly stating tasks and challenges for (1) macroprudential policy, (2) financial institutions' management, and (3) management of various risks
- Listing specific actions by the Bank of Japan that take into account existing tasks and challenges
- Assuming a new global stress scenario for macro stress testing, against the backdrop of the increase in Japanese banks' overseas loans and investment
- Current topics: fall in commodity prices and credit management
- Analysis of the financial system's risk structure: interconnectedness of financial institutions, their exposure to Asia, deposit-taking and lending activities, profitability of housing loans, etc.

III. Examination of financial intermediation 1. Domestic loans

➤ The amount of financial institutions' domestic loans outstanding continues to grow in the range of 2.0-2.5 percent.

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



➤ Loan growth among financial institutions has been led by loans to firms. For regional banks, both loans in Tokyo and those to firms in other regions -- particularly local firms -- have been growing at a faster pace.

Chart III-1-7: Loans outstanding among financial institutions by type of borrower

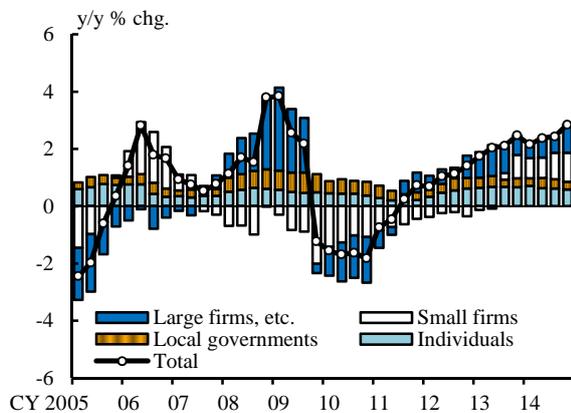
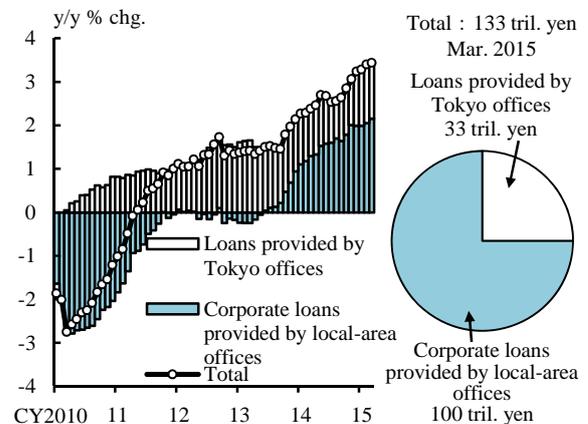


Chart III-1-11: Corporate loans provided by regional banks



- By industry, loans to a wide range of sectors, such as manufacturing, wholesale and retail, real estate, and those categorized as "others" including telecommunications and leasing, have increasingly contributed to the growth in loans compared with the first half of fiscal 2014.
- By region, loans have been growing in a wide range of regions.

Chart III-1-9: Corporate loans outstanding among financial institutions by industry

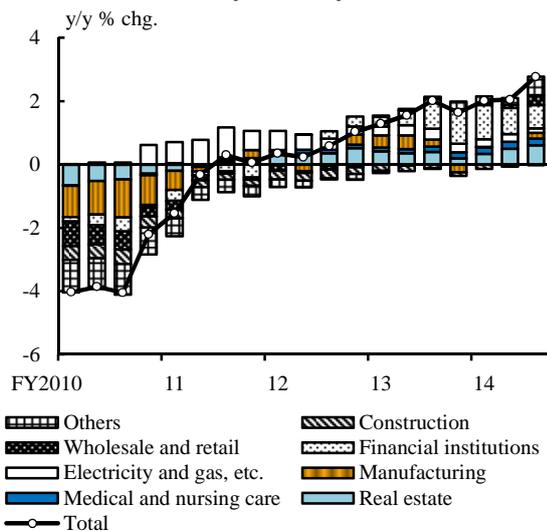
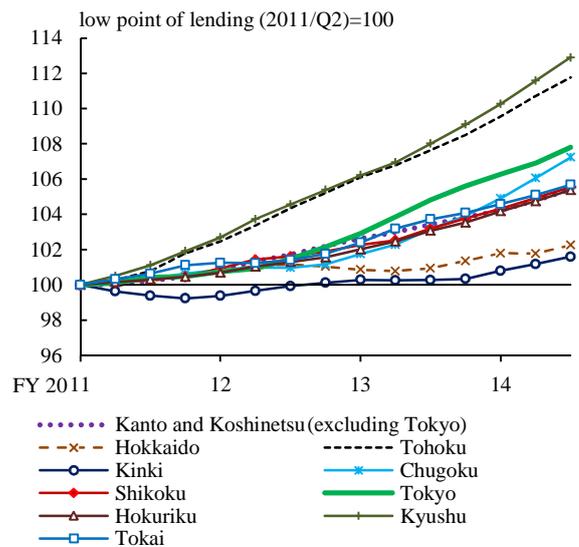


Chart III-1-10: Regional loans among banks



- Loans by financial institutions utilizing the Bank of Japan's Stimulating Bank Lending Facility have continued to increase. The Bank's Growth-Supporting Funding Facility has been utilized in particular for loans extended to business areas such as environment and energy, medical and nursing care, social infrastructure, and business deployment in Asia.

Chart III-1-12: BOJ's loan support program

Fund-provisioning measure to stimulate bank lending
Fund-provisioning measure to support strengthening the foundations for economic growth

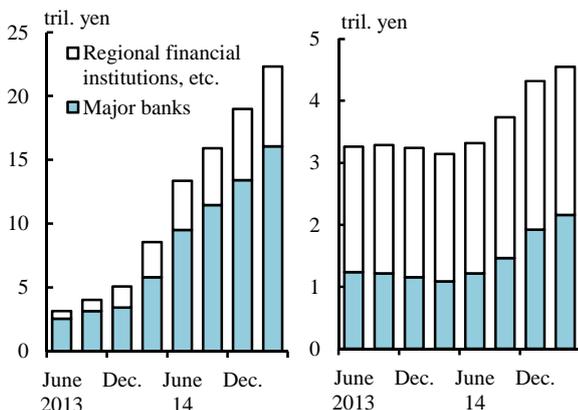
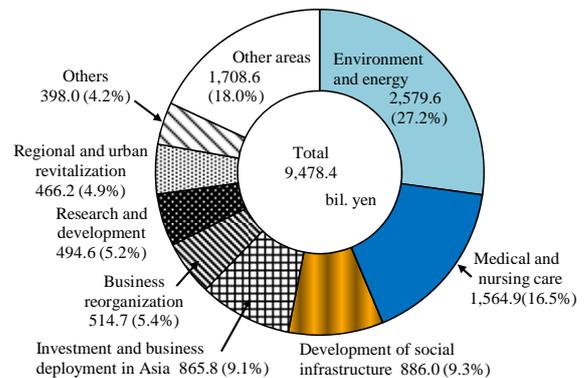


Chart III-1-13: BOJ's loan disbursements under the fund-provisioning measure to support strengthening the foundations for economic growth by area

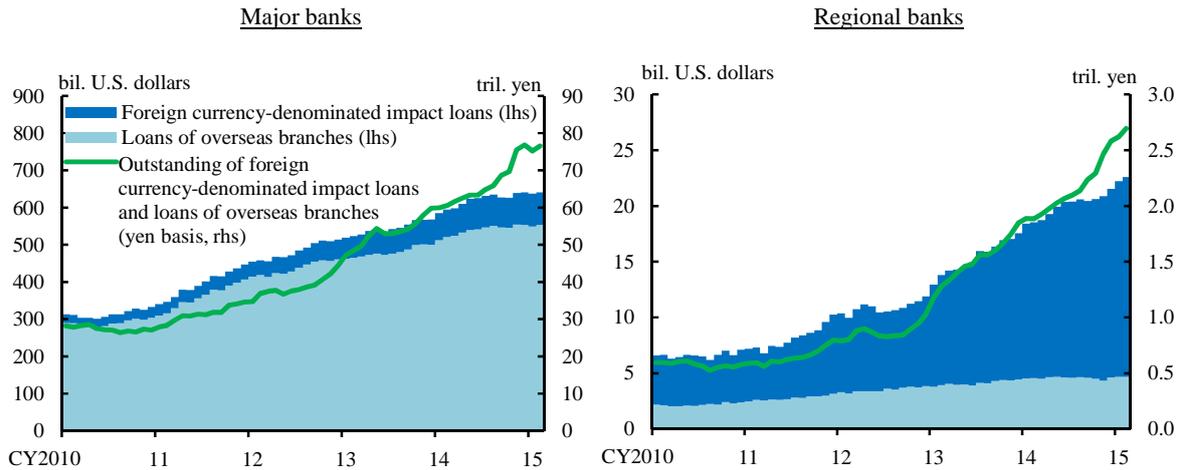


III. Examination of financial intermediation 2. Overseas loans

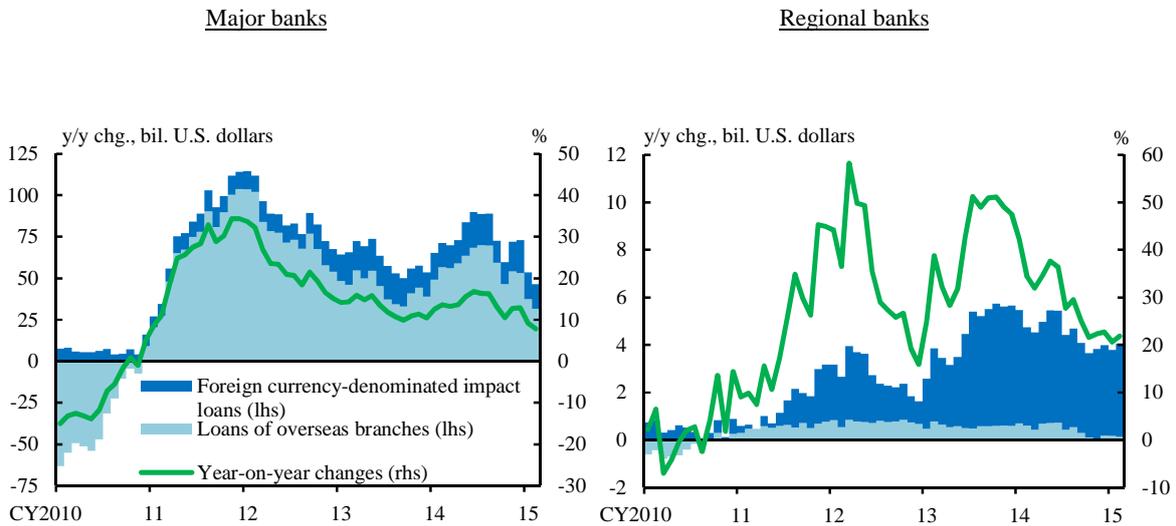
➤ Banks' overseas loans have continued to show high growth.

Chart III-1-18: Banks' foreign currency-denominated loans and loans of overseas branches

Loan amounts outstanding (U.S. dollar basis and yen basis)

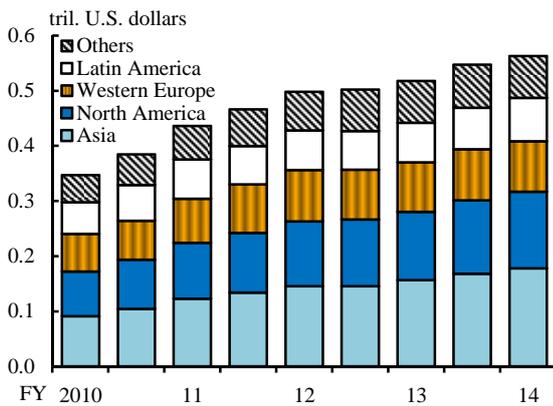


Changes in loans (U.S. dollar basis)



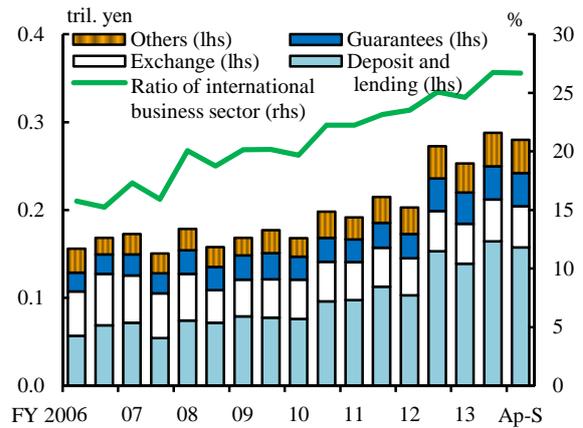
➤ Looking at major banks' loans by region, those in Europe have been relatively weak, while growth in loans has remained firm in Asia and North America. Major banks have been working to increase their fee and commission income through cooperation with group securities companies and other firms.

Chart III-1-19: Overseas loans outstanding of three major banks by region



Sources: Published accounts of each bank.

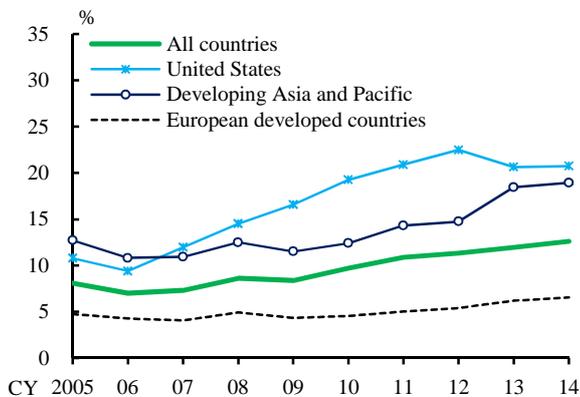
Chart III-1-24: Fee and commission income in the international business sector among major banks¹



Note: 1. "Ratio of international business sector" is the ratio of net fees and commissions in the international business sector as a percentage of total net fees and commissions.

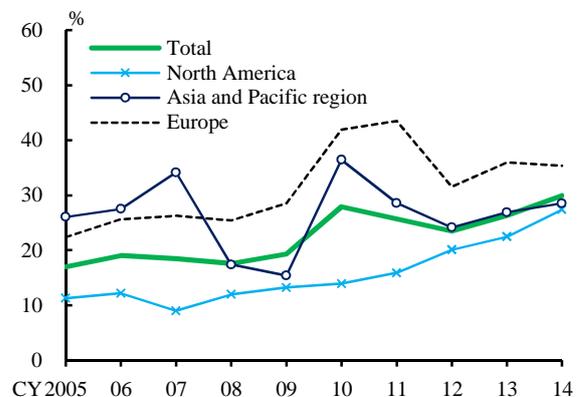
➤ Under these circumstances, the presence of Japanese banks in terms of international claims has continued to grow.

Chart III-1-20: Foreign claims share among Japanese banks by region



Sources: BIS, "Consolidated banking statistics"; BOJ, "The results of BIS international consolidated banking statistics in Japan."

Chart III-1-21: Syndicated loans share of three major Japanese financial groups by region



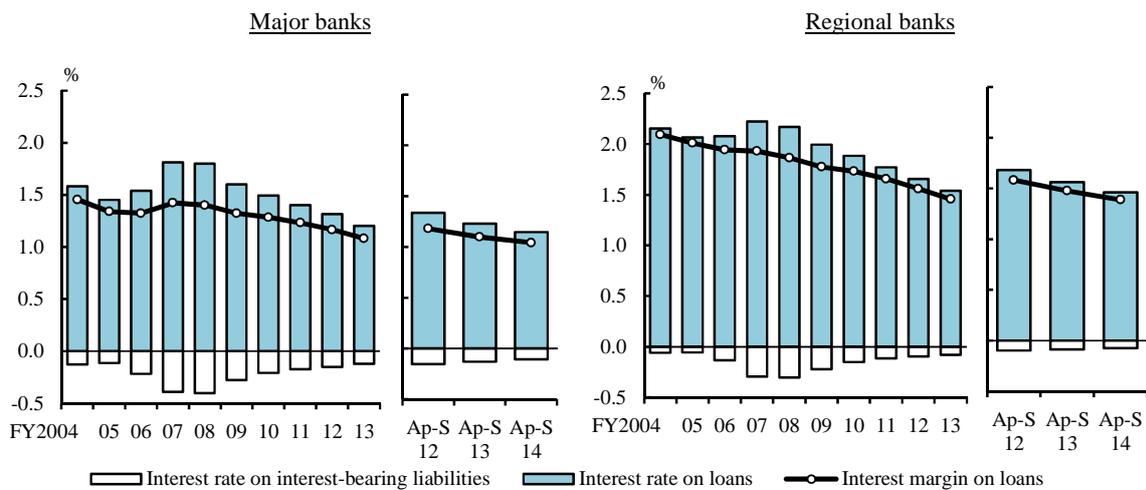
Source: Thomson Reuters Markets.

III. Examination of financial intermediation

3. Interest rate spreads on loans

- The narrowing trend in financial institutions' interest rate spreads on domestic loans has continued. This is because pressure exerted by the supply of funds remains stronger than that exerted by demand, mainly due to further easing of lending stances of financial institutions, although demand for funds has been increasing moderately.

Chart III-1-14: Interest margin on loans in the domestic business sector by type of bank



- The distribution of interest rate spreads on loans also indicates an overall downward shift.

Chart III-1-15: Distribution of interest margin on loans in the domestic business sector

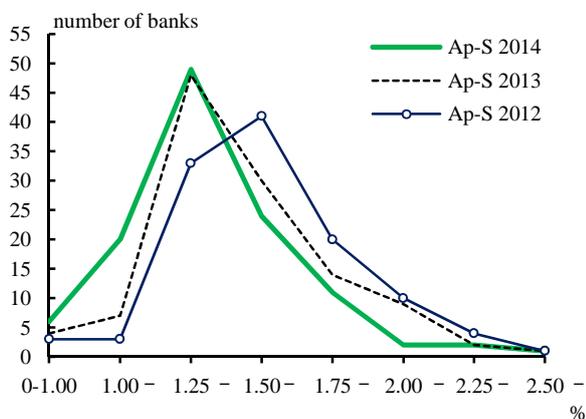
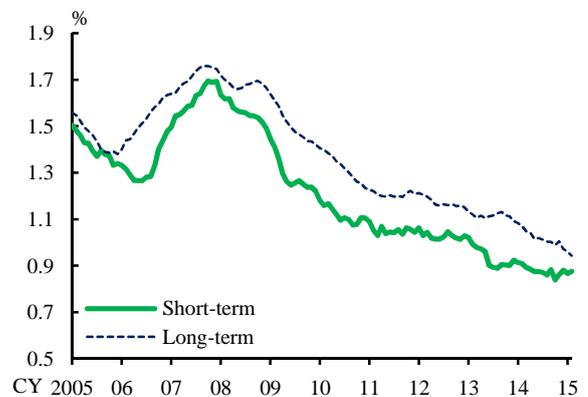
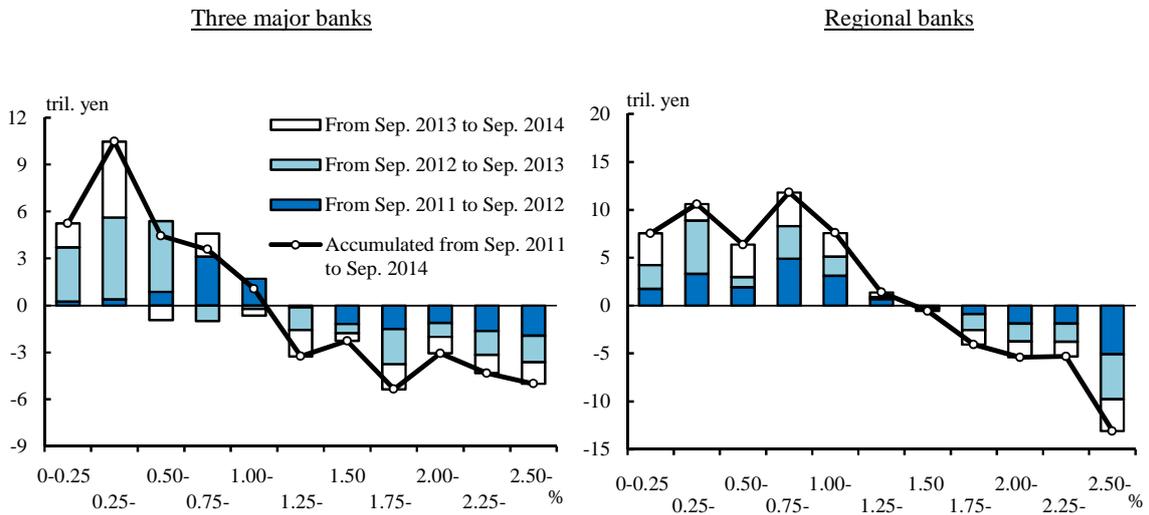


Chart III-1-16: Average contract interest rates on new loans and discounts



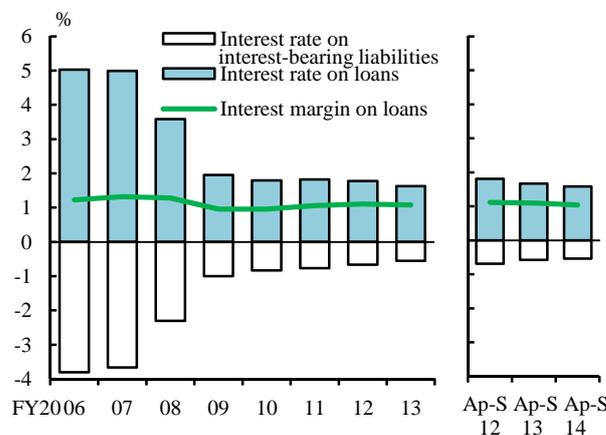
- Looking at developments in loans outstanding by lending rate over the past 3 years, those with lending rates below 0.5 percent have been increasing.

Chart III-1-17: Changes in loans outstanding by interest rate on loans among banks



- Interest rate spreads on overseas loans have recently declined somewhat as competition to acquire top-rated borrowers has strengthened.

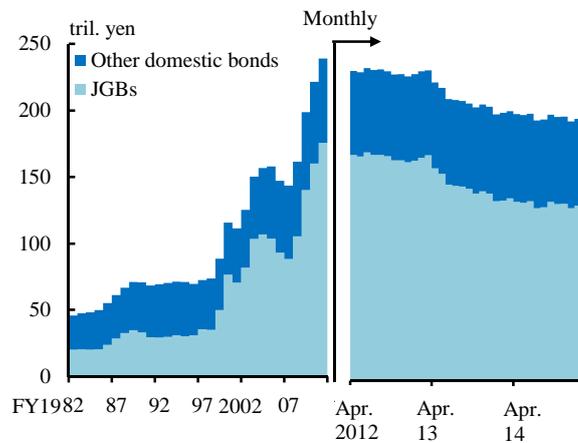
Chart III-1-23: Interest margin on loans in the international business sector among major banks



III. Examination of financial intermediation 4. Securities investment

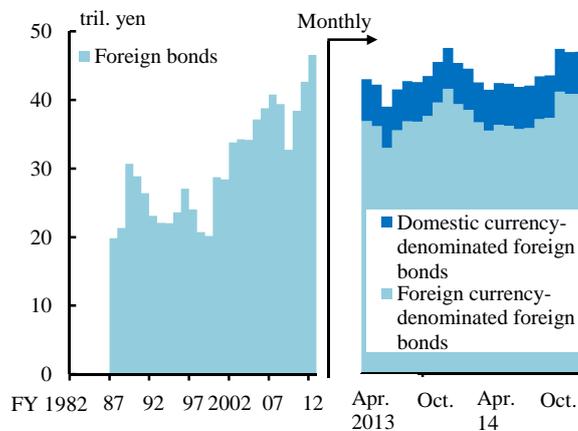
- Financial institutions have gradually been enhancing their risk-taking stance by diversifying their asset investments, such as foreign bonds and investment trusts, while maintaining a high level of yen-denominated bond investment.
- The outstanding amount of yen-denominated bonds -- including JGBs, municipal bonds, and corporate bonds -- is still at a high level compared with the past, although it continues to be on a moderate declining trend.

Chart III-1-25: Outstanding amount of domestic bonds among financial institutions



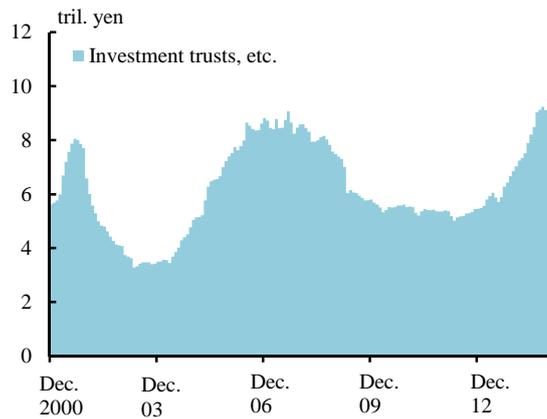
- The outstanding amount of foreign bonds, when converted into yen, has been on a moderate increasing trend (strategic stockholdings).

Chart III-1-26: Outstanding amount of foreign bonds among financial institutions



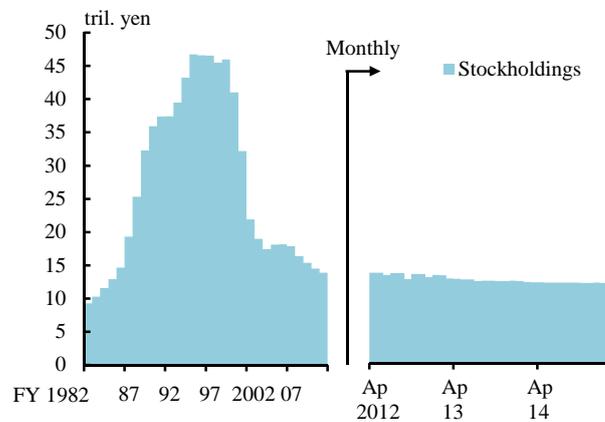
➤ Investment trusts and other assets have been clearly increasing.

Chart III-1-27: Outstanding amount of investment trusts, etc. among financial institutions



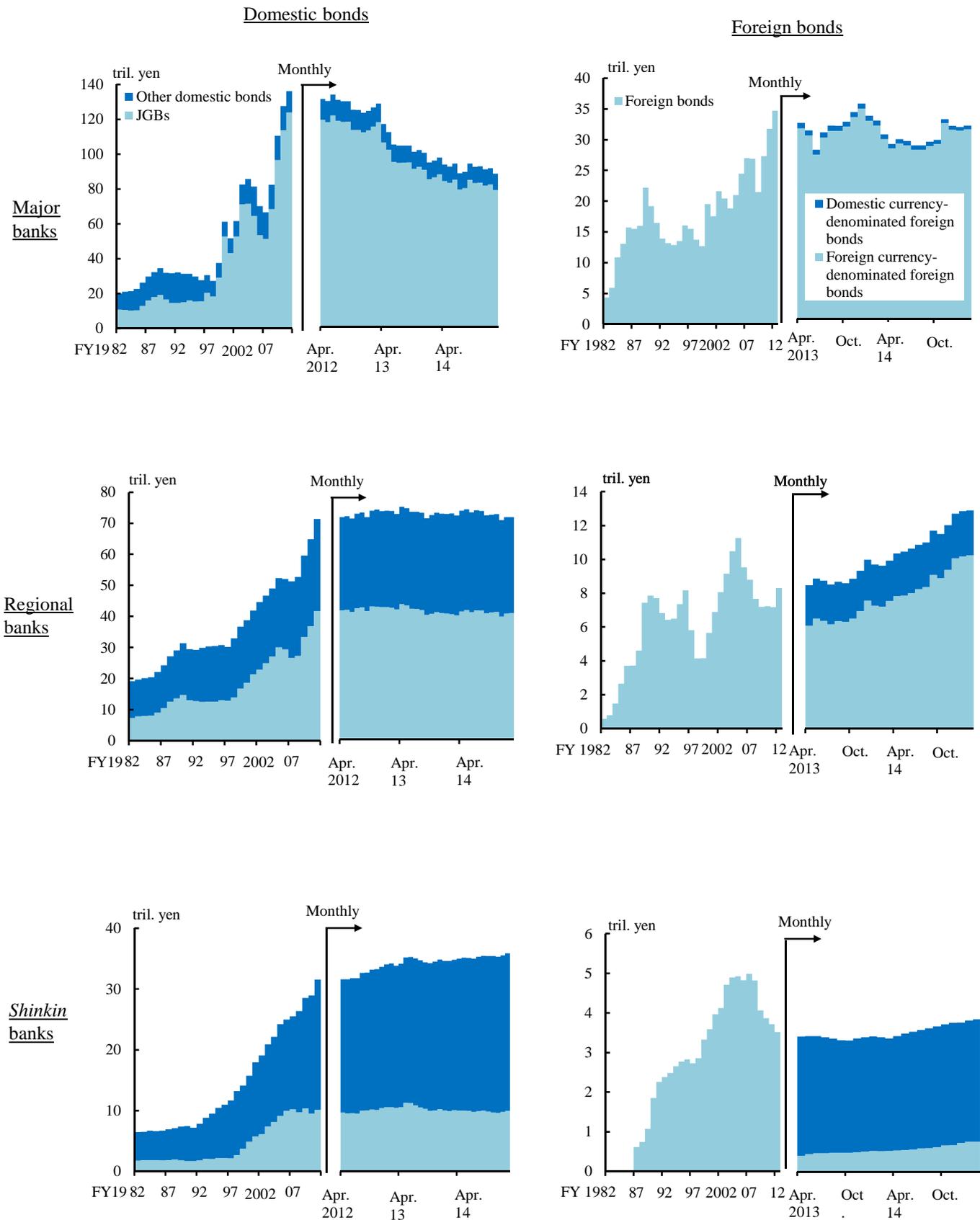
➤ Meanwhile, financial institutions' stockholdings are on a quite moderate downward trend, as they continue to reduce their stockholdings with the aim of maintaining business ties with firms.

Chart III-1-28: Outstanding amount of stockholdings among financial institutions

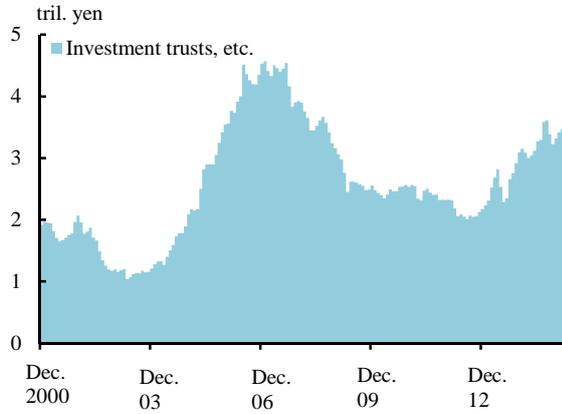


III. Examination of financial intermediation

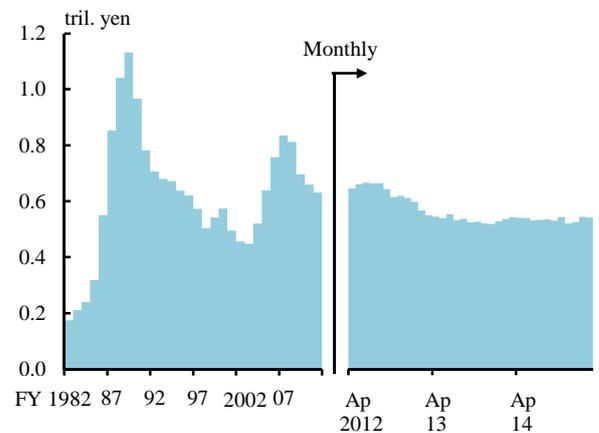
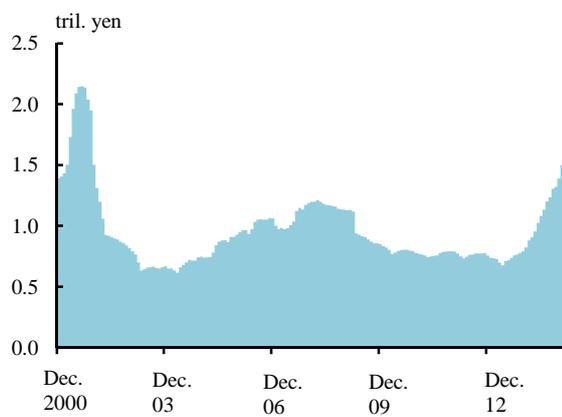
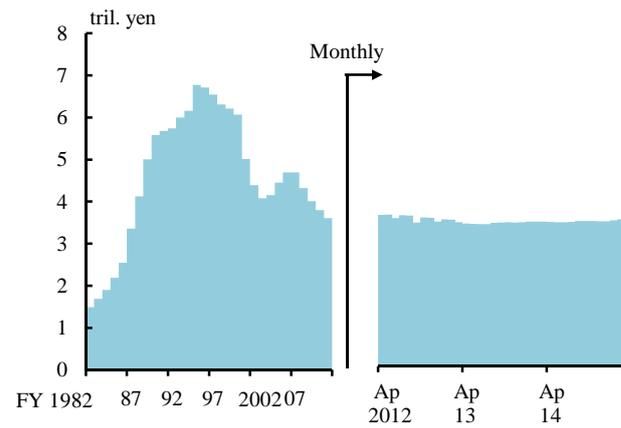
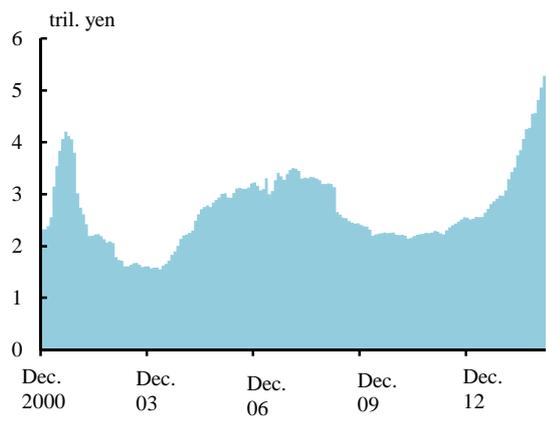
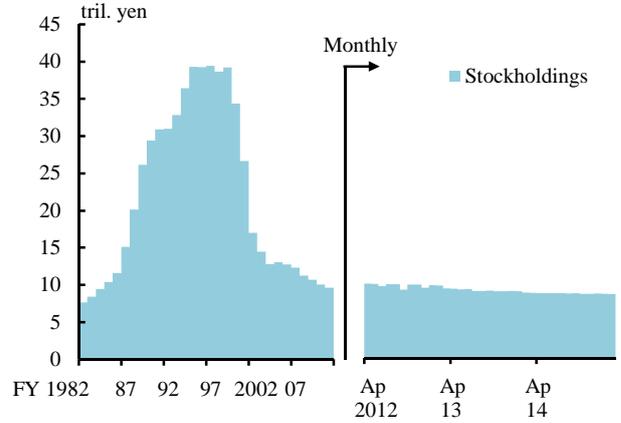
4. Securities investment by type of bank



Investment trusts, etc.



Stockholdings



III. Examination of financial intermediation

5. Institutional investors and financial markets

- Major institutional investors such as life insurance companies and pension funds, having invested mainly in domestic long-term bonds, also increased their share of investment in risky assets.

Chart III-2-1: Asset investments among life insurance companies

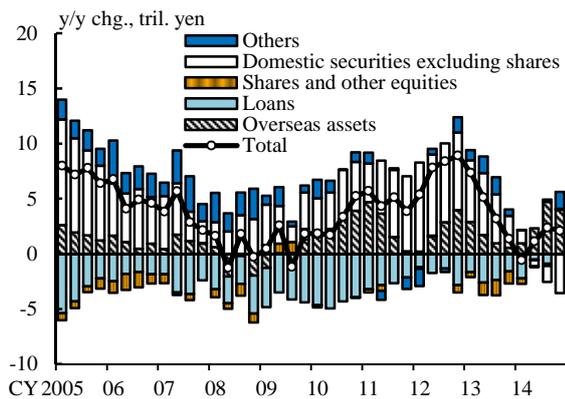
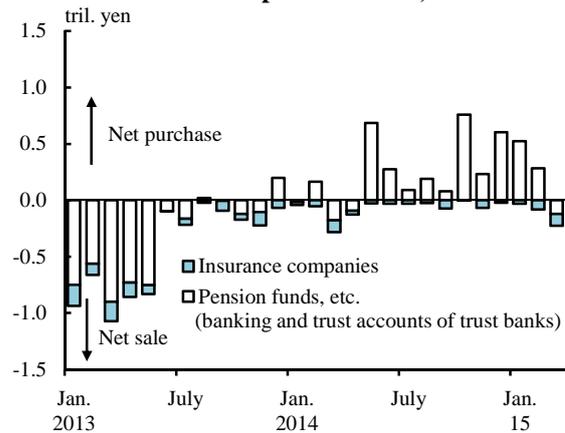


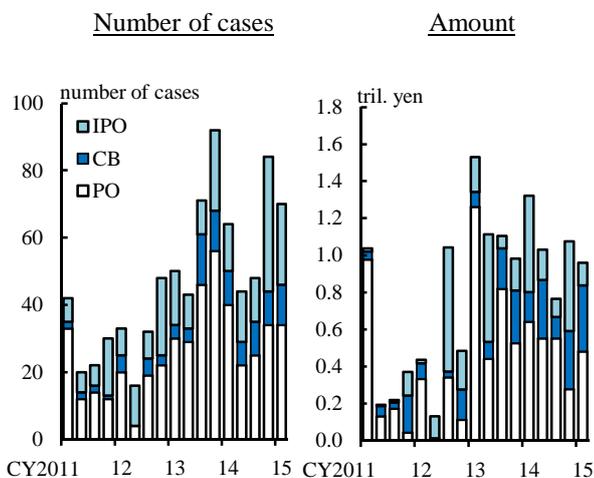
Chart III-2-4: Trading volume in Japanese stocks by insurance companies and pension funds, etc.



Source: Tokyo Stock Exchange.

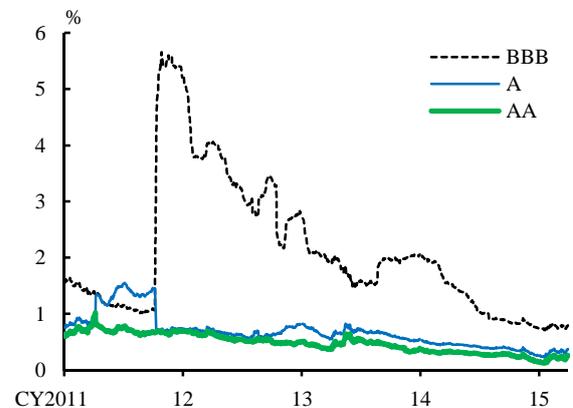
- Equity financing through the stock market remains at a high level. Issuing conditions for CP and corporate bonds have continued to be favorable.

Chart III-3-1: Equity financing



Source: I-N Information Systems.

Chart III-3-7: Yield on corporate bonds



Sources: Bloomberg; Japan Securities Dealers Association.

III. Examination of financial intermediation

6. Financial conditions among firms and households

➤ Financial conditions among firms and households have become more accommodative against the backdrop of financial intermediary activities stated above.

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

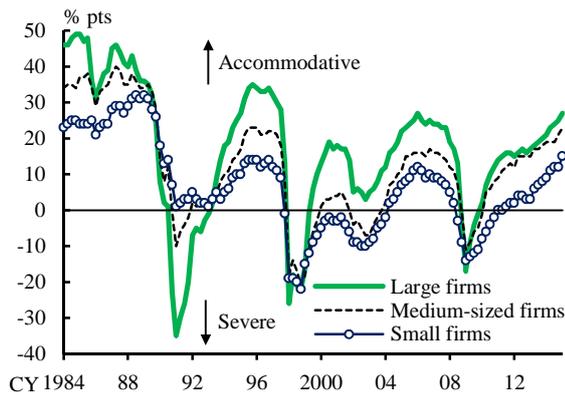


Chart III-4-2: DI of financial positions of firms

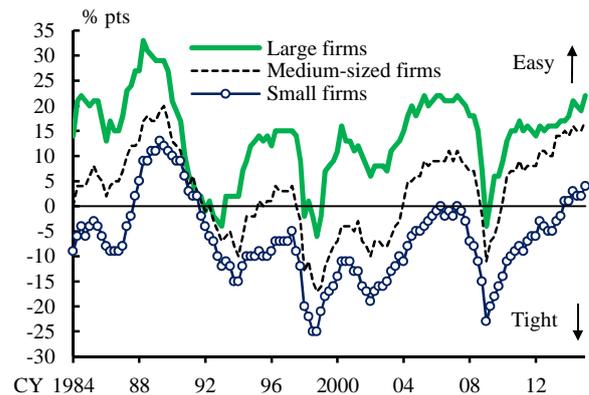
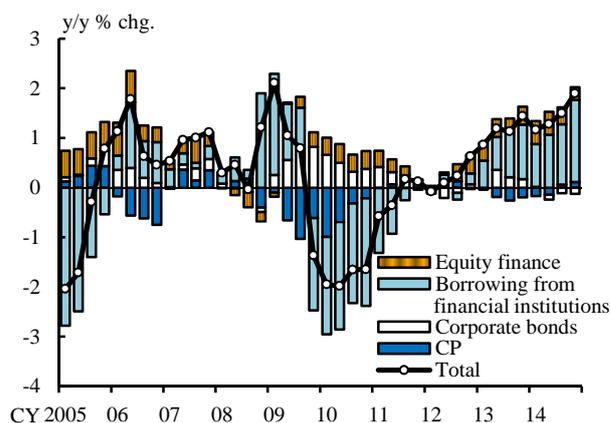


Chart III-4-3: Total outstanding amount of firm funding



Sources: I-N Information Systems; Japan Securities Dealers Association; Japan Securities Depository Center; BOJ, "Flow of funds accounts," "Loans and bills discounted by sector."

III. Examination of financial intermediation

7. Households' investment activities

➤ Deposits have been central to household financial assets. Recently, however, the share of risky assets in household financial assets has gradually been increasing, as seen particularly in the continued net inflow to investment trusts.

Chart III-4-5: Risky assets held by households

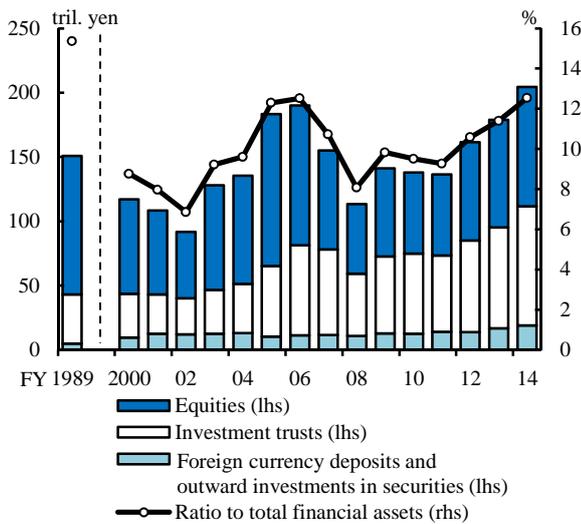


Chart III-4-6: Assets in custody held by major securities companies for retail customers

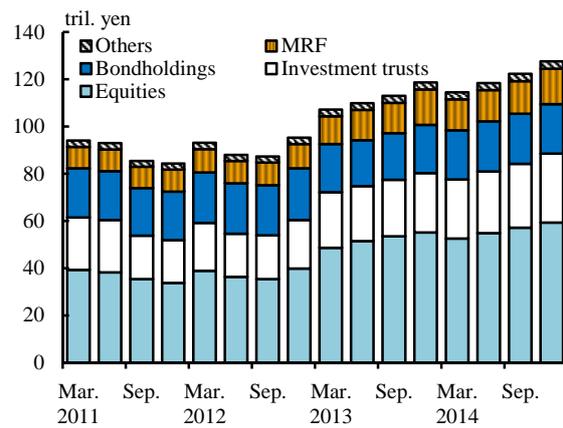


Chart III-4-7: Capital flows held by securities companies for retail customers

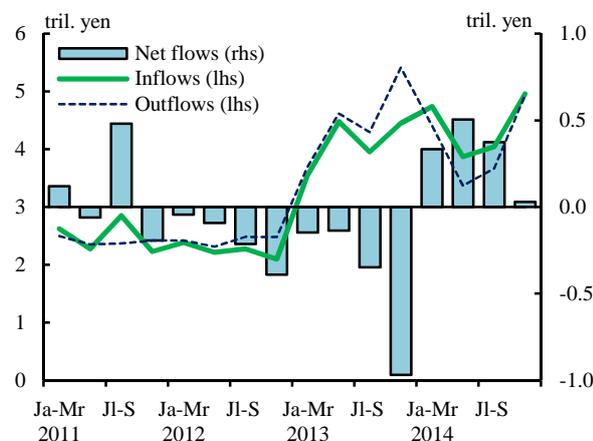
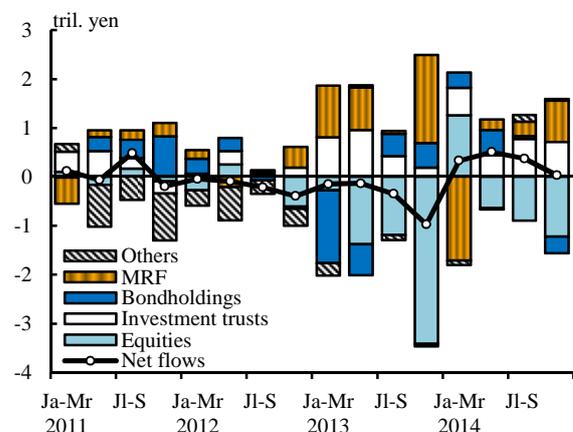


Chart III-4-8: Capital flows by product held by major securities companies for retail customers



➤ The introduction of Nippon Individual Savings Accounts (NISAs), as well as financial institutions' greater efforts to expand their customer bases and client assets, appear to be encouraging such a trend.

Chart III-4-9: Purchases through NISA accounts and the number of NISA accounts opened

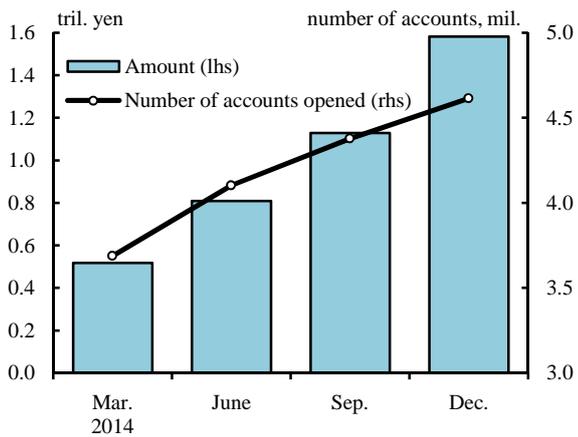
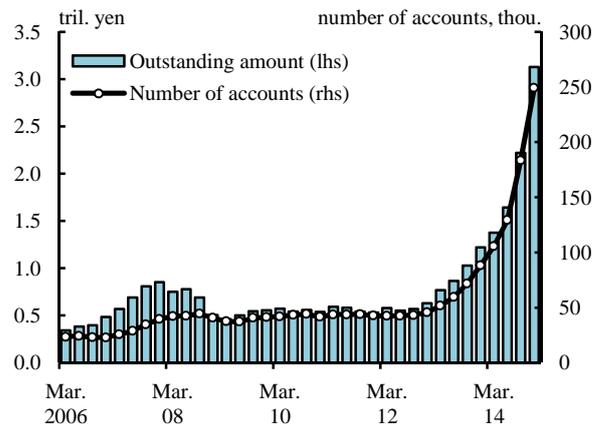


Chart III-4-10: Assets under management in wrap accounts



Source: Japan Investment Advisers Association.

IV. Risks borne by financial institutions 1. Credit risk

➤ Financial institutions' credit risk has declined since publication of the previous Report. While financial institutions are increasing their lending both at home and abroad, the amount of credit risk has declined. This is primarily due to improvement in the quality of assets, reflecting the economic recovery and improved financial conditions among firms.

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

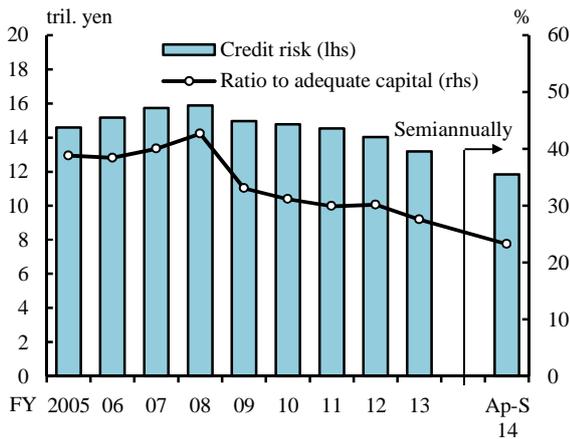
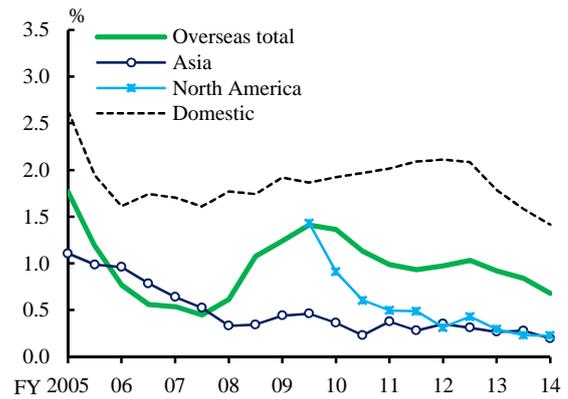


Chart IV-1-11: NPL ratio of major banks by region



Sources: Published accounts of each group.

➤ The quality of loans of financial institutions has continued to improve.

Chart IV-1-5: Composition of claims by borrower classification

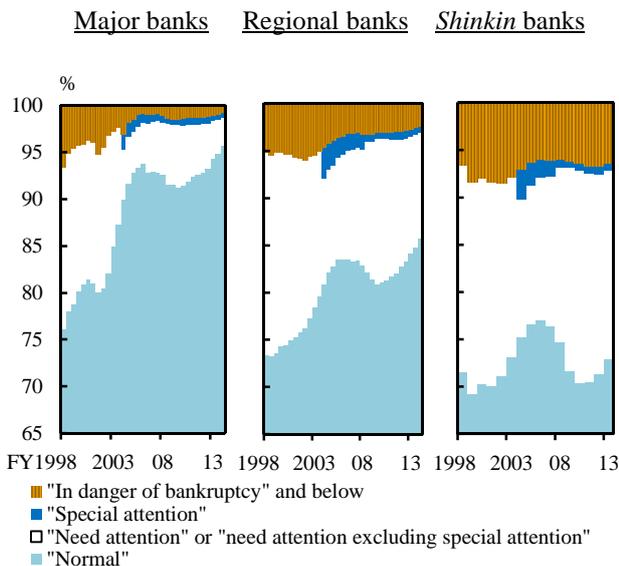
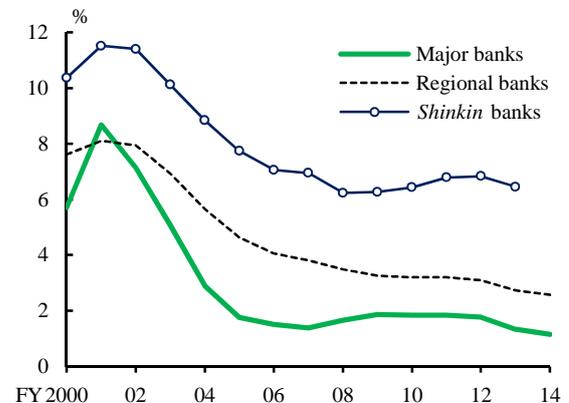


Chart IV-1-6: NPL ratios



➤ The credit cost ratio of financial institutions has continued to decline, and is at an extremely low level from a long-term perspective. Regarding the credit cost ratio (the ratio of costs incurred by credit extension to loans outstanding) for the first half of fiscal 2014, major banks recorded a historical high for their net reversals while regional banks posted their first net reversals.

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

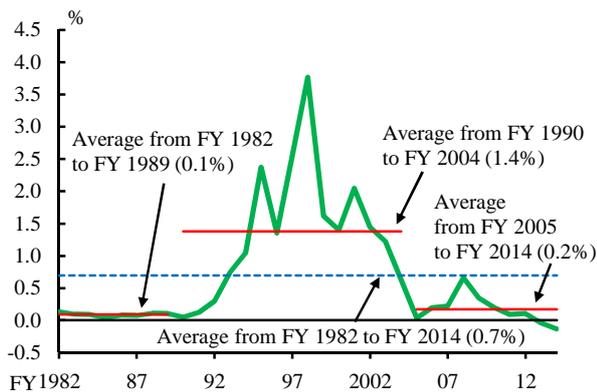
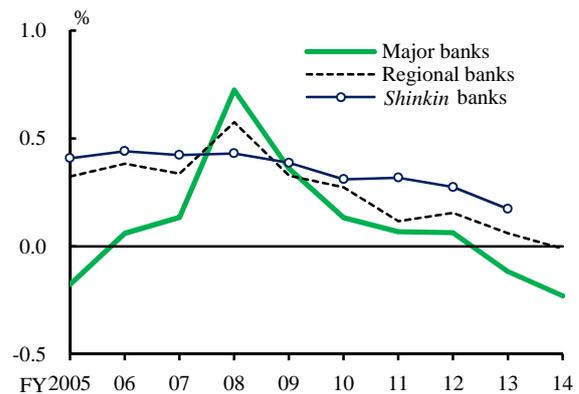
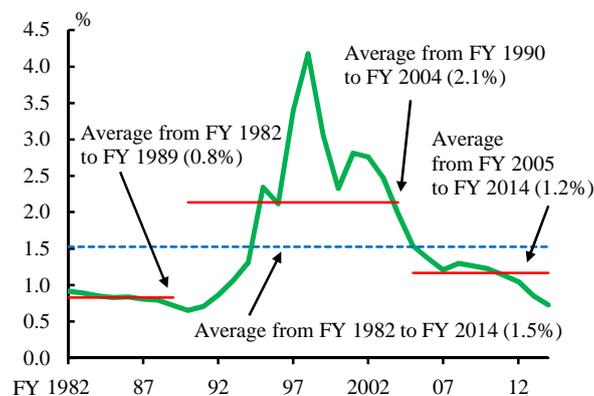


Chart IV-1-8: Credit cost ratio by type of bank



➤ The loan-loss provision ratio (the ratio of loan-loss provisions to loans outstanding) has also continued to decline.

Chart IV-1-9: Loan-loss ratio of banks



IV. Risks borne by financial institutions

2. Tasks and challenges regarding credit risk

(Tasks and challenges regarding credit risk management)

- First, it is necessary to continuously examine the adequacy of how the amount of credit risk is estimated and provisions are calculated, taking into account expectations for future developments.
 - It should be noted that risk management action and provisioning are, by nature, preparations for the future. Therefore, in principle, financial institutions should appropriately factor in expected effects on future developments that are not reflected in past figures and smooth out the effects of business cycles.
- Some financial institutions -- while taking into account the relevant regulations and tax rules -- have made amendments to their provisioning practices in preparation for future developments.
 - They have (1) reviewed the estimation period for the actual loan-loss ratio monitored in calculating the provision ratio; (2) increased the granularity of groupings in calculating the amount of provisions in accordance with the situation regarding the borrower's risks; and (3) extended the range of borrowers to whom the discounted cash flow (DCF) method is applied so that borrowers' future business opportunities are reflected.

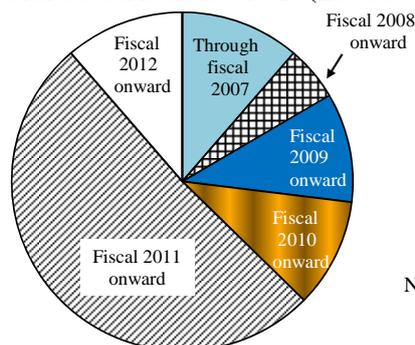
Chart IV-1-13: Amendments to the loan-loss provisions method by financial institutions subject to the Bank of Japan's on-site examinations in fiscal 2014^{1,2}

	69 banks and <i>shinkin</i> banks	Extension of measurement period	More granular bucketing of borrower classification in accordance with credit risk	Reduction of the threshold subject to the DCF method	Implementation of the cash flow deduction method	Setting minimum loan-loss provision rates
General loan-loss provisions	35	26	6	8	0	2
Special loan-loss provisions	57	22	13	12	11	10

Notes: 1. Banks and *shinkin* banks subject to the Bank of Japan's on-site examinations in fiscal 2014 are in the sample.

2. Amendments to the loan-loss provisions method among the examined financial institutions include the following schemes: extension of the measurement period for the calculation of expected losses to 4 years or more; more granular bucketing of borrower classification in accordance with the degree of credit risks; reduction of the threshold (to less than 10 billion yen) subject to the DCF (discount cash flow) method for loans classified as needing special attention or in danger of bankruptcy; and implementation of the cash-flow deduction method (i.e., calculating expected losses as a remainder after the amount collectible from rationally estimated cash flow is deducted from the outstanding amount of loans to borrowers in danger of bankruptcy, classified as category III). The Inspection Manual for Deposit-Taking Institutions states that "in calculating expected loss amounts, use average default rates and/or bankruptcy probabilities for at least the last three calculation periods (three year average of cumulative default rates and/or bankruptcy probabilities for a set period in the past corresponding to a set period in the future) to calculate past default rates". The Manual also states that "it is desirable to apply the DCF method for large borrowers (whose credit amount for the time being is 10 billion yen or more) " classified as needs special attention or in danger of bankruptcy.

Chart IV-1-12: Measurement period for actual loan-loss ratio (need attention excluding special attention)¹



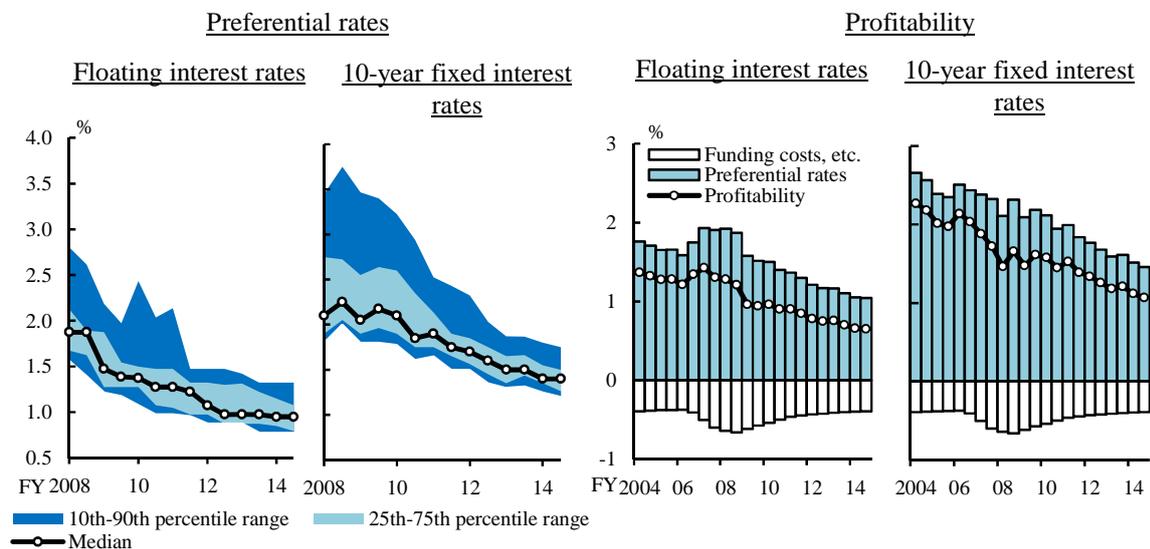
Note: 1. Major banks and regional banks are counted. The data are in the first half of fiscal 2014.

➤ Second, it is necessary for financial institutions to improve their credit management capabilities in such areas as overseas lending and lending to growing domestic business areas, where active engagements have been observed.

➤ Third, the assessment of risk and return in loans has become important as interest rate spreads on loans have continuously narrowed.

➤ In particular, lending spreads on housing loans have recently been declining at a pace exceeding that seen in credit costs. Although the concept of profitability of housing loans may not be uniform depending on the time horizon of assessments or the concept of total profitability, financial institutions need to make appropriate assessments of profitability based on their respective business plans.

Chart IV-1-14: Preferential rates and profitability of housing loans



Sources: Japan Financial News, "Nikken report"; BOJ.

Chart IV-1-16: Distribution of debt-to-income ratio for housing loans

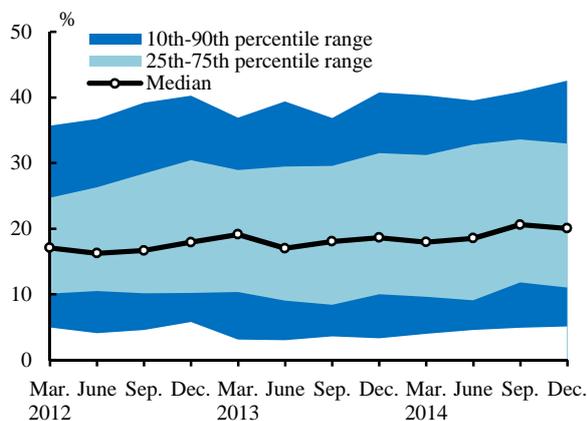
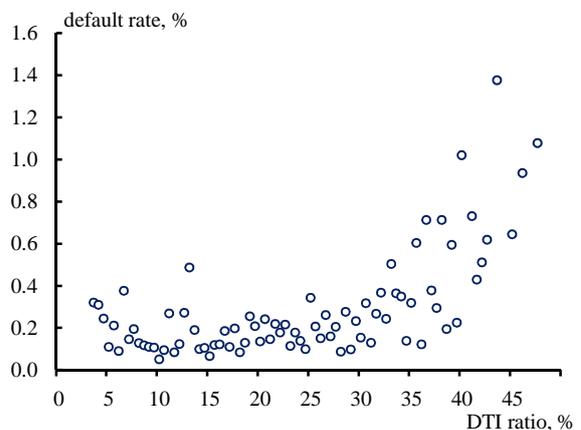


Chart IV-1-17: DTI ratio and default rate



Source: CRD.

IV. Risks borne by financial institutions 3. Interest rate risk

➤ The amount of interest rate risk on yen-denominated bonds held by financial institutions has increased somewhat from the level observed in the previous Report. Although the amount of risk has recently been at a level approximately 10 percent below the latest peak of 8.3 trillion yen reached at the end of March 2013, it is still relatively high from a long-term perspective. Under these circumstances, financial institutions are once again enhancing their risk-taking stance with regard to yen interest rates -- albeit gradually -- with a view to securing their fixed-income revenues.

Chart IV-2-1: Interest rate risk associated with bondholdings among financial institutions

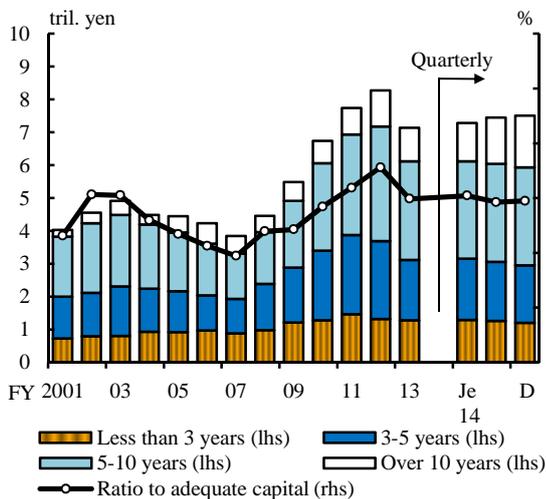


Chart IV-2-4: Interest rate risk associated with bondholdings by type of bank

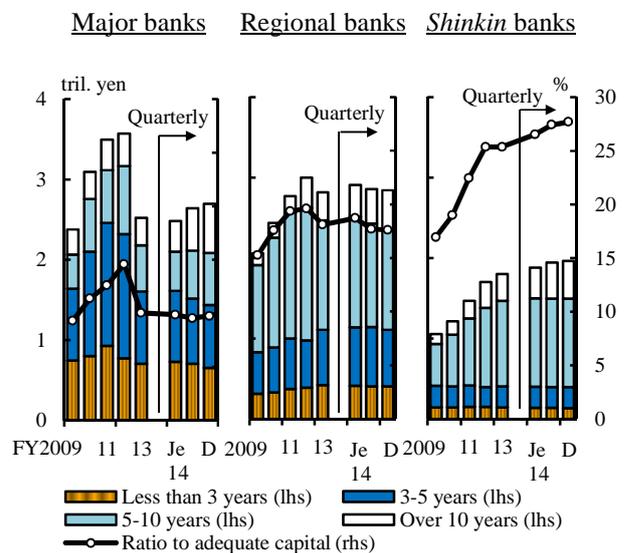


Chart IV-2-2: Effects of a rise in interest rates on capital losses on bondholdings

Upward shift by 1 percentage point

tril. yen	Parallel shift scenario			Steepening scenario		
	End-June 2014	End-Sep. 2014	End-Dec. 2014	End-June 2014	End-Sep. 2014	End-Dec. 2014
Financial institutions	-7.3	-7.5	-7.5	-4.4	-4.6	-4.8
Banks	-5.4	-5.5	-5.5	-3.0	-3.2	-3.3
Major banks	-2.5	-2.6	-2.7	-1.2	-1.4	-1.6
Regional banks	-2.9	-2.9	-2.8	-1.8	-1.8	-1.8
Shinkin banks	-1.9	-1.9	-2.0	-1.4	-1.4	-1.5

IV. Risks borne by financial institutions

4. Tasks and challenges regarding interest rate risk

(Tasks and challenges regarding interest rate risk management)

➤ First, financial institutions need to take and manage risks appropriately under clear asset-liability management (ALM) strategy that takes into account assessments of their interest rate risk.

➤ In doing so, multidimensional analysis is necessary, such that it takes into account risks of periodic changes in fixed-income revenues, in addition to market-based risk assessments such as 100bpv and value-at-risk (VaR). An orderly response to changes in market conditions becomes possible once the impact on profitability and capital strength as well as management actions under various scenarios are assessed through simulations and stress testing.

➤ Financial institutions have been diversifying their form of risk taking in areas other than interest rates. Given this, the dynamic analysis mentioned above will be useful in obtaining a comprehensive understanding of the relevant risks (pp.9-12, 43).

➤ Second, financial institutions should formulate coherent policies on how to recognize their "core deposits" in interest rate risk management.

Chart IV-2-12: An example of core deposits among banks

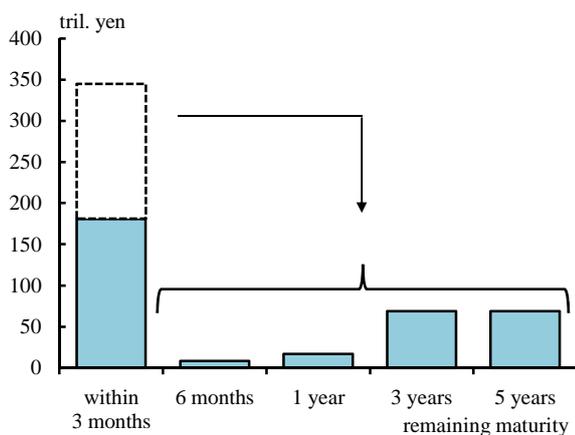
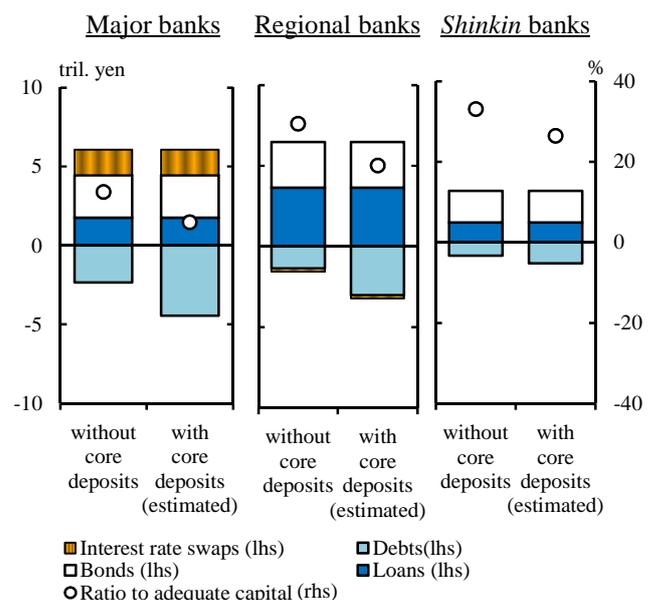


Chart IV-2-13: Interest rate risk with core deposits taken into account



IV. Risks borne by financial institutions 5. Tasks and challenges regarding market risk associated with stockholdings

- The amount of market risk associated with stockholdings at financial institutions has increased somewhat since the previous Report.

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

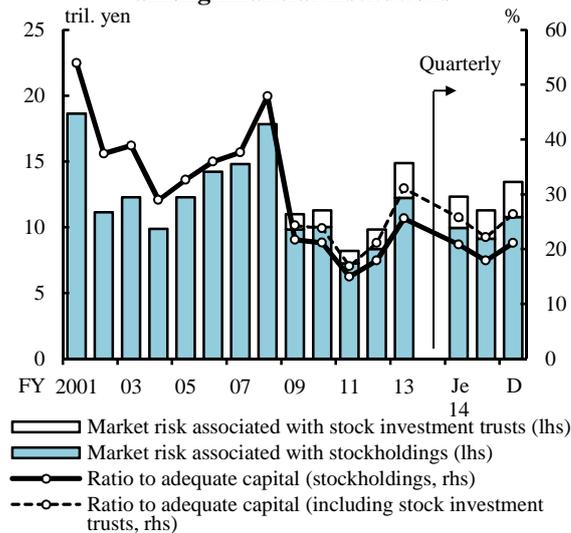
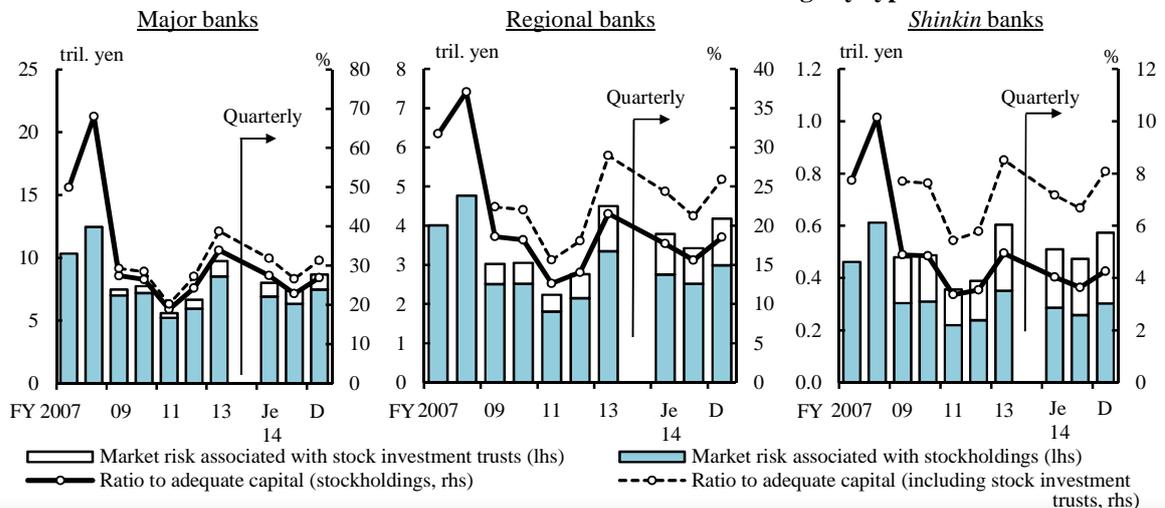


Chart IV-3-2: Market risk associated with stockholdings by type of bank



(Tasks and challenges regarding management of market risk associated with stockholdings)

- Banks are required to appropriately assess the purpose of strategic stockholdings and thereby continue their efforts to reduce the related risk.
- The Corporate Governance Code, recently put together by the Tokyo Stock Exchange, requires companies holding listed shares as strategic holdings to examine their medium- to long-term economic rationality and outlook based on factors including expected return and risk, and to provide a reasoned explanation regarding the aim of such strategic stockholdings and their rationale.

IV. Risks borne by financial institutions

6. Tasks and challenges regarding funding liquidity risk

- Financial institutions have sufficient funding liquidity in yen funds.
- As for foreign currency-based funding, they have funding structures with a large proportion of market funding, but hold a liquidity buffer that can cover funding shortages even if market funding becomes difficult for a certain period.

Chart IV-4-2: Structure of foreign currency funding and investment among major banks

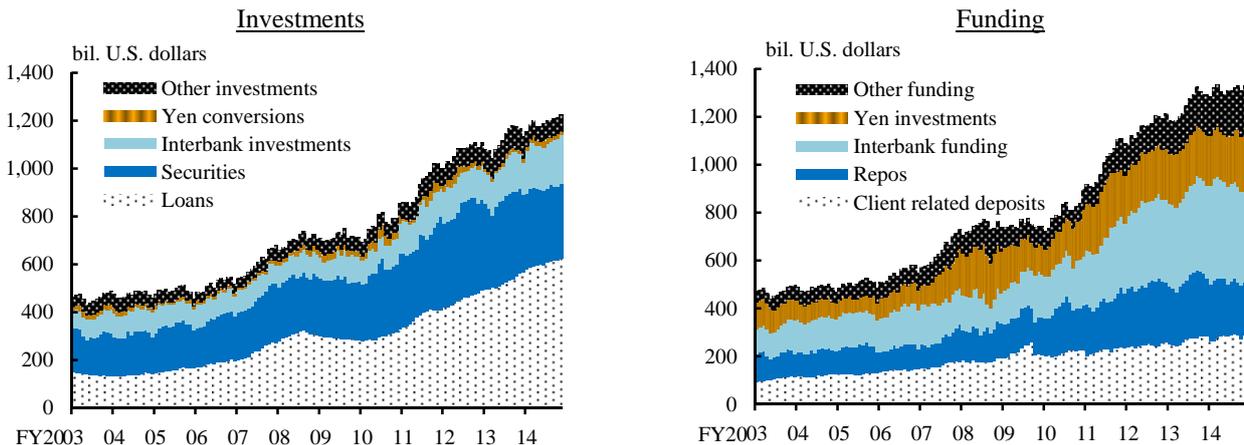


Chart IV-4-3: Stability gap among major banks

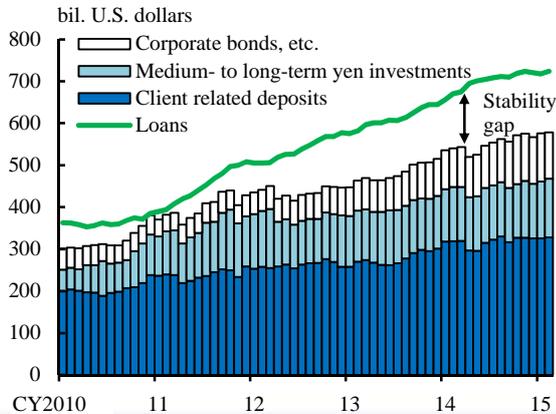
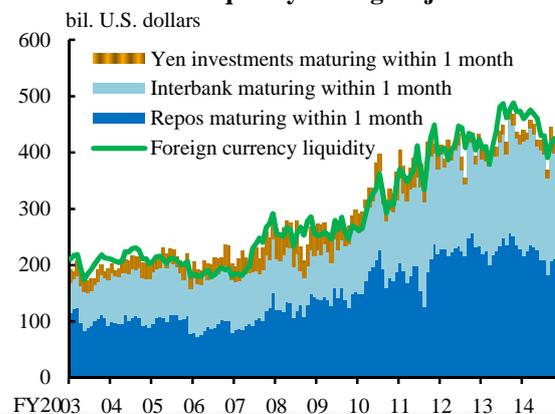


Chart IV-4-4: Resilience to foreign currency liquidity among major banks



- The "stability gap" is the gap between the amount of illiquid loans and stable funding through, for example, customer deposits, medium- to long-term foreign exchange swaps, and corporate bonds. It is a useful indicator in assessing the stability of the investment and funding structure of foreign currencies.

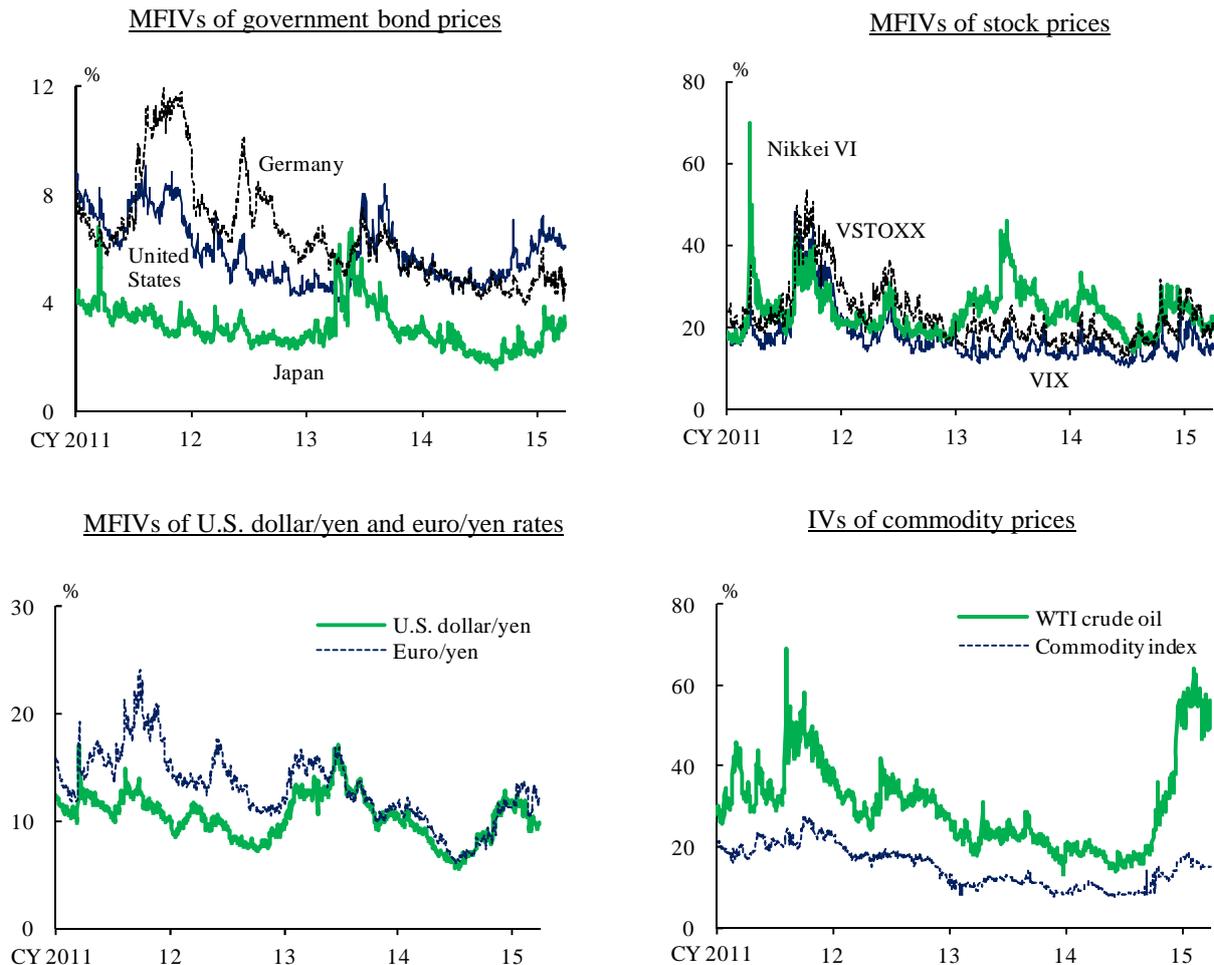
(Tasks and challenges regarding funding liquidity risk management)

- First, financial institutions need to continue with efforts to secure stable foreign currency funding bases and strengthen their ability to respond to potential market stresses.
- Second, liquidity risk management of local currencies other than the U.S. dollar, such as Asian or European currencies, is gaining importance.

V. Risks observed in financial markets 1. Global financial markets

- Looking at global financial markets, long-term bond yields declined and stock prices rose in advanced economies, mainly against the background of a substantial decline in crude oil prices seen until the beginning of 2015. In addition, a rise in volatility was seen in a wide range of financial markets.

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

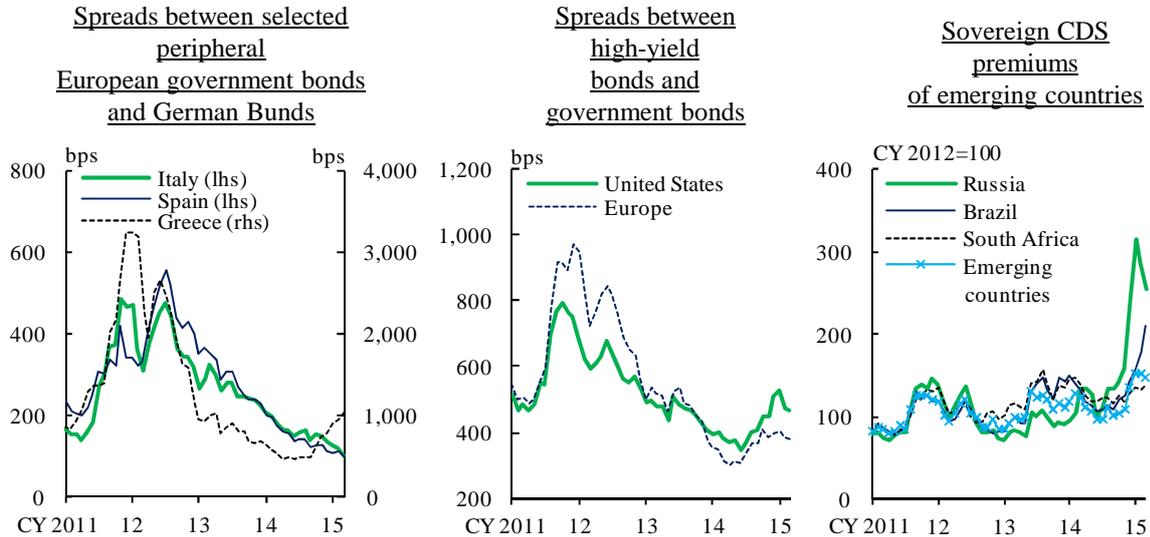


Sources: Bloomberg; BOJ.

- As for the outlook, attention should continue to be paid to the risk that volatility in global financial markets will rise, reflecting factors such as market participants' views on the outlook for the global economy and on the monetary policy stance of major advanced countries, as well as geopolitical risks. In this connection, market participants are paying particular attention to 1) the outlook for developments in crude oil prices and their effects, 2) the outlook for U.S. monetary policy and its effects, and 3) the Greek debt problem and prospects for long-term interest rates in Europe.

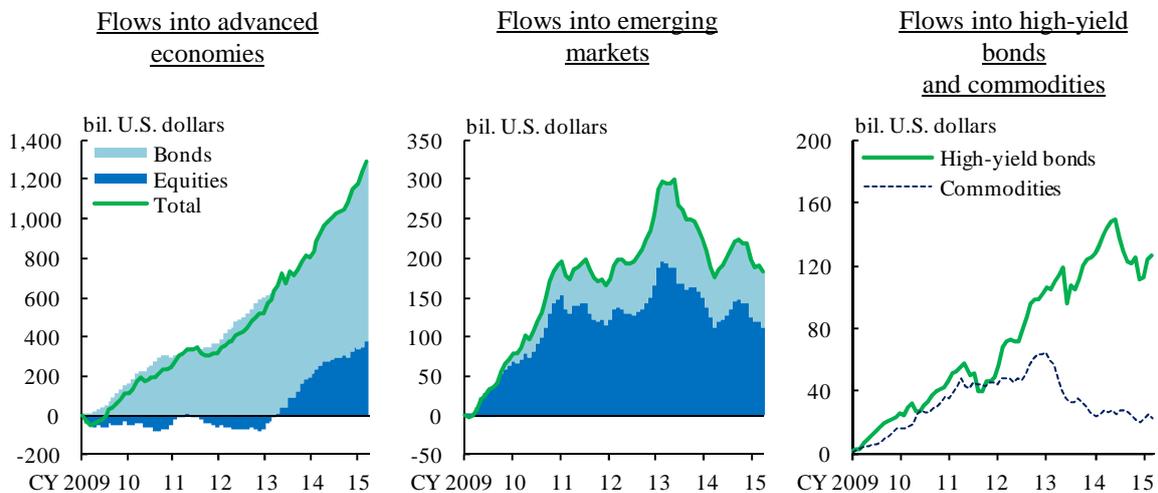
➤ Credit spreads on high-yield bonds and some emerging market bonds widened.

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



➤ While capital continued to flow into equities and high-rated bonds in advanced economies, capital flowed more or less out of emerging market and high-yield bond funds -- which had previously shown a considerable amount of inflow in line with investors' search for yields -- toward the beginning of 2015.

Chart V-1-3: Fund flows

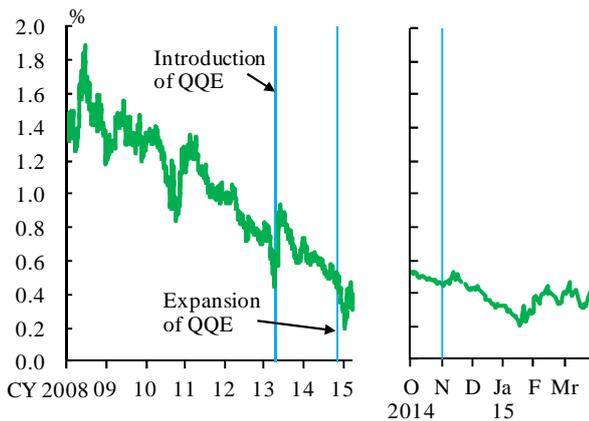


V. Risks observed in financial markets

2. Japanese financial markets

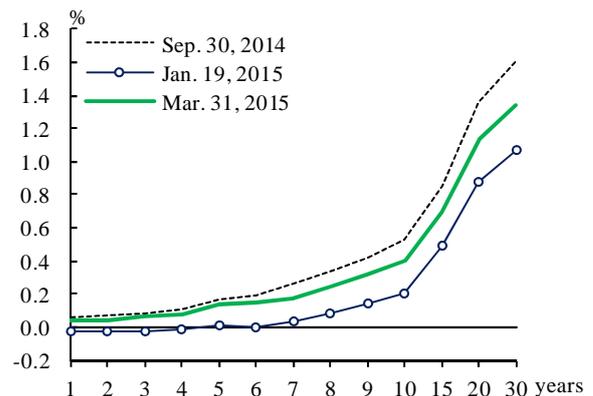
- After the expansion of QQE, long-term JGB yields declined toward the middle of January 2015 and subsequently rose toward the middle of February. They have since remained more or less unchanged. The volatility of government bond prices has been rising since the middle of January.

Chart V-2-1: Long-term JGB yields



Source: Bloomberg.

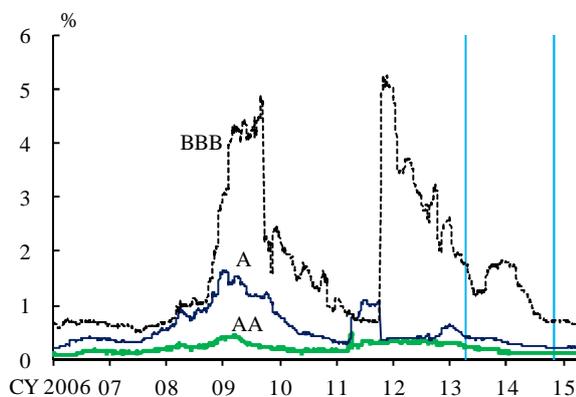
Chart V-2-2: Changes in the JGB yield curve



Source: Bloomberg.

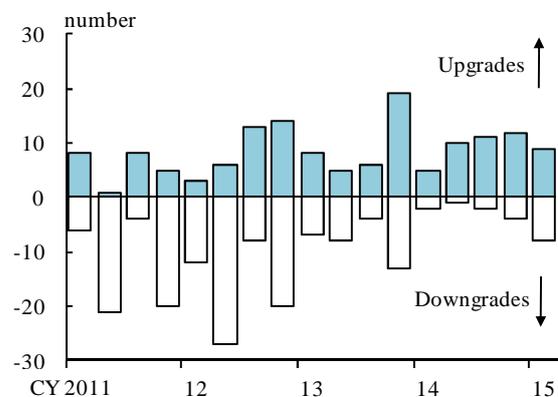
- Credit spreads on corporate bonds have remained at low levels.

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



Source: Japan Securities Dealers Association.

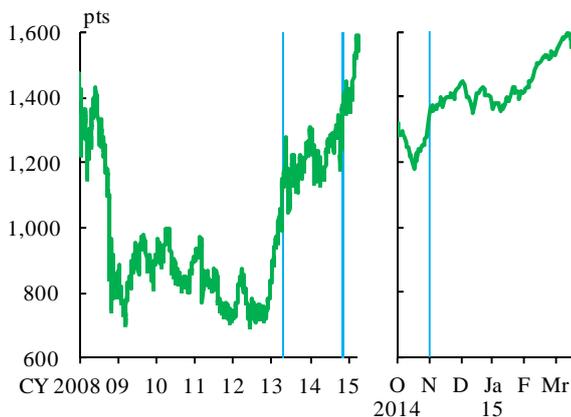
Chart V-2-19: Developments in long-term credit ratings



Source: Bloomberg.

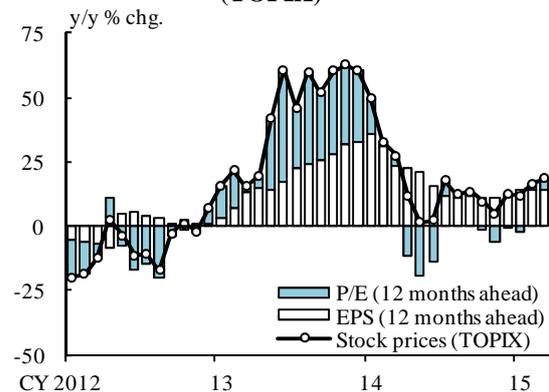
- Japanese stock prices followed a rising trend throughout the second half of fiscal 2014. The volatility of stock prices rose temporarily toward the end of 2014, but has since been declining moderately. Breaking down the changes in Japanese stock prices into price earnings (P/E) ratios and earnings per share (EPS), a lot of the recent rises in stock prices can be explained by the expansion of EPS.

Chart V-2-21: Stock prices (TOPIX)



Source: Bloomberg.

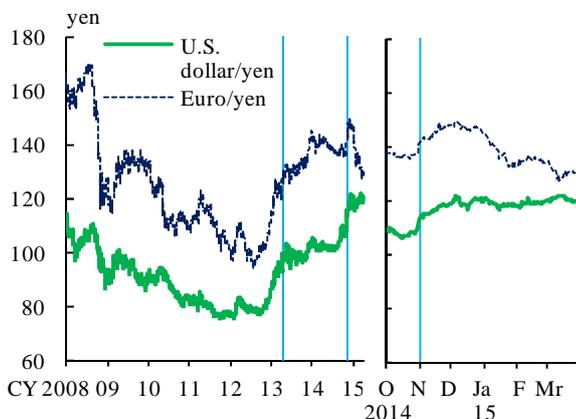
Chart V-2-22: Breakdown of stock prices (TOPIX)



Sources: Bloomberg; Thomson Reuters Markets.

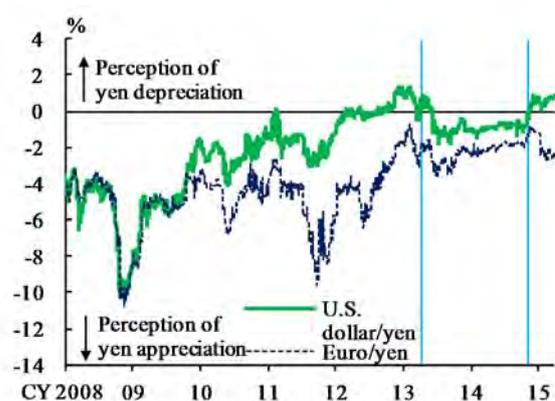
- The yen depreciated against the U.S. dollar toward the end of 2014, but has since been more or less unchanged. The volatility of the yen's exchange rates rose somewhat toward the end of 2014 and has remained at a relatively high level. Meanwhile, risk reversals indicate some concern among market participants over the yen's depreciation against the dollar, while anxiety over the yen's appreciation against the euro has heightened somewhat.

Chart V-2-26: Foreign exchange rates



Source: Bloomberg.

Chart V-2-27: Risk reversals of U.S. dollar/yen and euro/yen rates



Source: Bloomberg.

VI. Risk assessment of the financial system from a macroeconomic perspective 1. Macro risk indicators

- According to the Financial Activity Indexes (FAIXs), there is no overheating in financial intermediation.

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

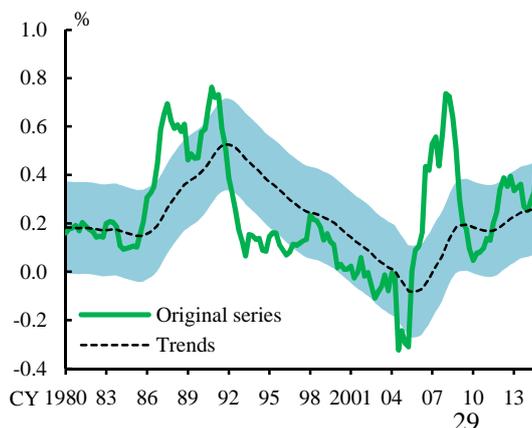
		CY	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
Financial institutions	DI of lending attitudes of financial institutions		Green																																			
	Growth rate of M2		Green																																			
Financial markets	Equity weighting in institutional investors' portfolios		Green																																			
	Stock purchases on margin to sales on margin ratio		Green																																			
Private sector	Private investment to GDP ratio		Green																																			
	Total credit-to-GDP ratio		Green																																			
Household	Household investment to disposable income ratio		Green																																			
	Household loans to GDP ratio		Green																																			
Corporate	Business fixed investment to GDP ratio		Green																																			
	Corporate credit to GDP ratio		Green																																			
Real estate	Real estate firm investment to GDP ratio		Green																																			
	Ratio of real estate loans to GDP		Green																																			
Asset prices	Stock prices		Green																																			
	Land prices to GDP ratio		Green																																			

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."

The Financial Activity Indexes (FAIXs) are indicators used to gauge overheating in various financial activities. In the *Report*, we identify signs of overheating by selecting as FAIXs 14 indicators that are appropriate in assessing whether financial imbalances similar to those observed during Japan's bubble period have arisen and examining the deviation of individual indicators from their trends.

- Compared with the findings presented in the previous *Report*, the real estate firm investment to GDP ratio changed from "green" in the previous *Report* to "red" in this *Report*, indicating a shift toward overheating.
- On the other hand, the real estate loans to GDP ratio, the other indicator of the real estate industry, remains "green." A comprehensive look at a wide spectrum of information -- including real estate transactions and price developments -- suggests that the real estate market currently shows no signs of overheating (see 3. Real estate market).

Chart VI-1-4: Real estate firm investment to GDP ratio^{1,2,3,4}



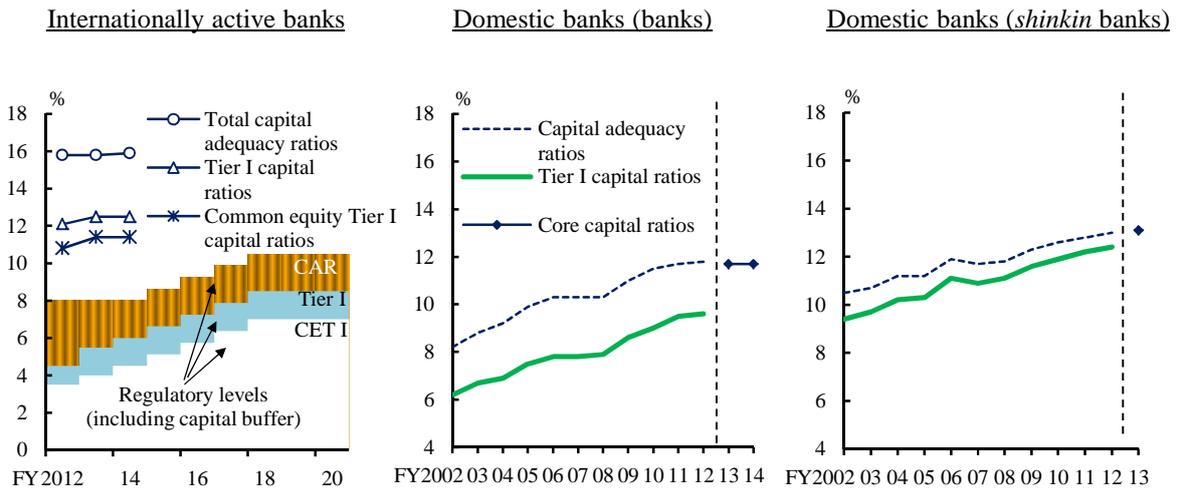
- Notes: 1. Large firms of real estate are counted. The latest data are as of the October-December quarter of 2014.
 2. Original series = (business fixed investment + land investment + inventory investment) / nominal GDP.
 3. Trends are calculated using the one-sided HP filter.
 4. Shaded areas indicate the root mean square of deviation from trends.

Sources: Cabinet Office, "National accounts"; Ministry of Finance, "Financial statements statistics of corporations by industry."

VI. Risk assessment of the financial system from a macroeconomic perspective 2. Financial institutions' capital adequacy

➤ Financial institutions' capital adequacy ratios are sufficiently above regulatory levels.

Chart VI-2-1: Capital adequacy ratios



➤ Financial institutions' capital has generally been at an adequate level relative to the amount of risk.

Chart VI-2-5: Risks and adequate capital among financial institutions

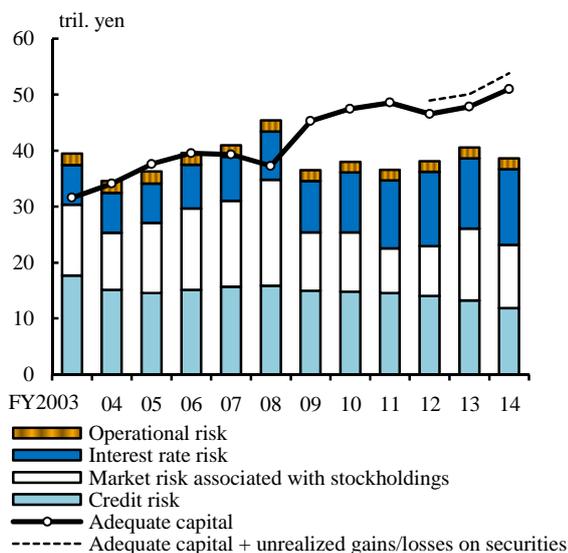
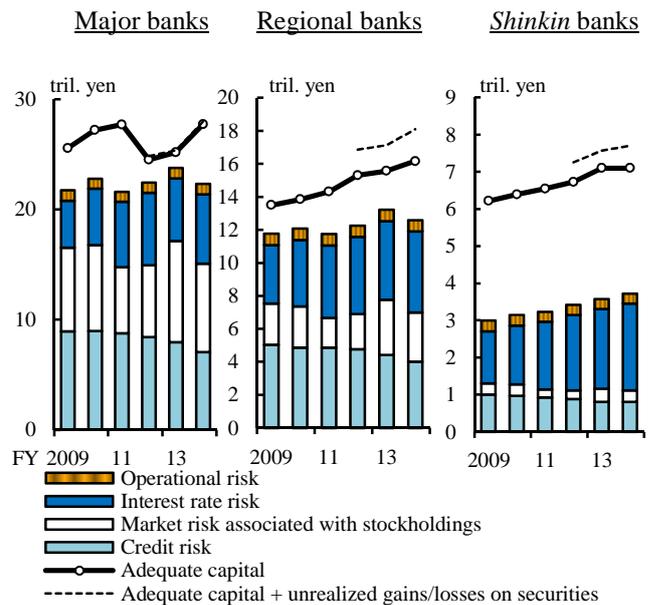


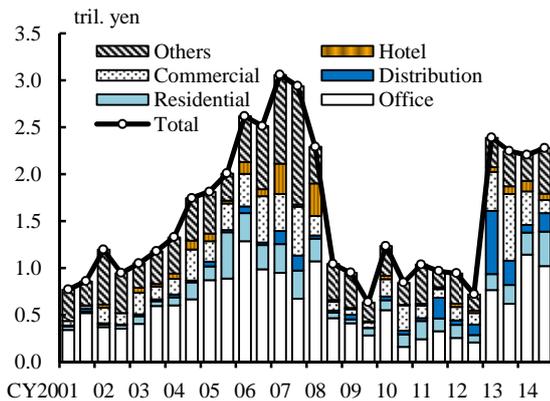
Chart VI-2-6: Risks and adequate capital by type of bank



VI. Risk assessment of the financial system from a macroeconomic perspective 3. Real estate market

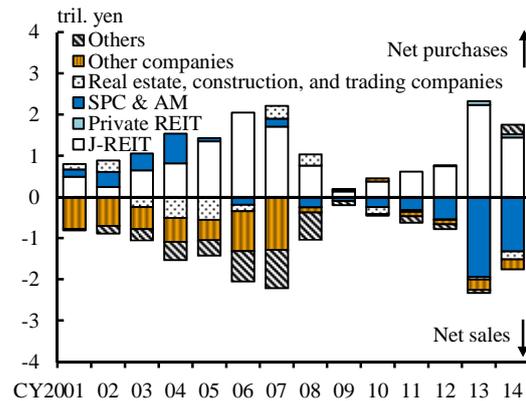
➤ The value of real estate transactions has recently been at a high level.

Chart B5-1: Value of real estate transactions



Source: Japan Real Estate Institute.

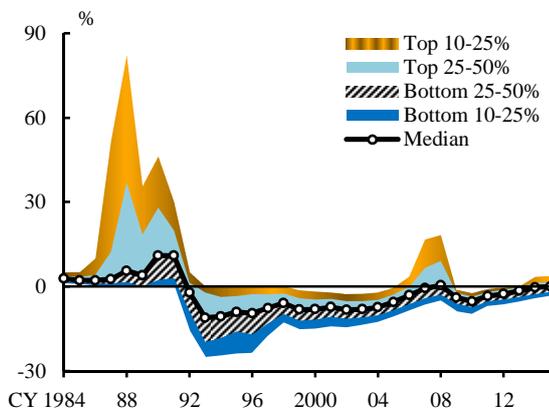
Chart B5-2: Real estate transactions by type of entity



Source: Japan Real Estate Institute.

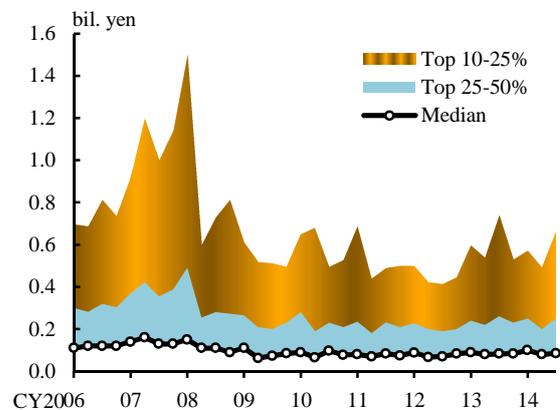
➤ The distribution of rates of increase in commercial land prices (appraisal values) at individual locations shows that while the median value has approached the level that prevailed during the real estate boom in the mid-2000s, an upward expansion of the distribution, akin to those seen in past real estate booms, has not been observed.

Chart B5-3: Distribution of year-on-year rates of change in commercial land prices



Source: Ministry of Land, Infrastructure, Transport and Tourism, "Land market value publication."

Chart B5-4: Distribution of individual commercial property transaction prices (23 Tokyo wards)



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

➤ The growth rate of bank loans to the real estate industry has increased slightly compared with the first half of fiscal 2014, but is still moderate compared with the previous phase of increased lending around 2006.

Chart B5-6: Loans to the real estate industry among financial institutions

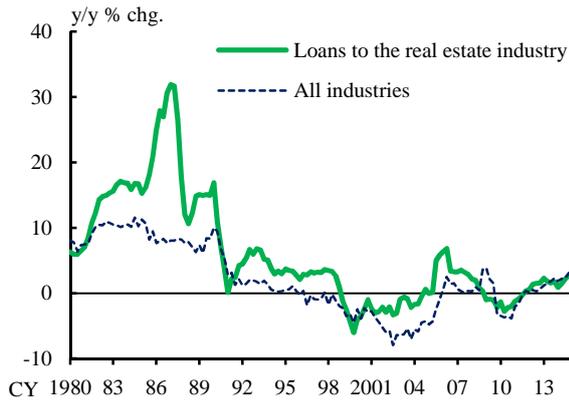
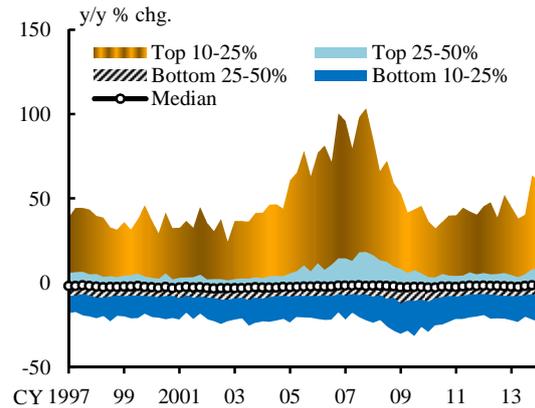


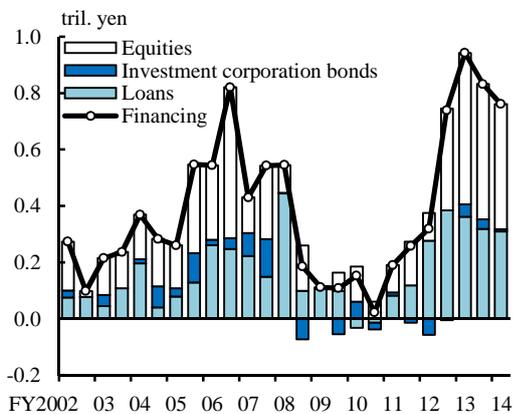
Chart B5-12: Debt financing by real estate companies with lower creditworthiness



Source: CRD.

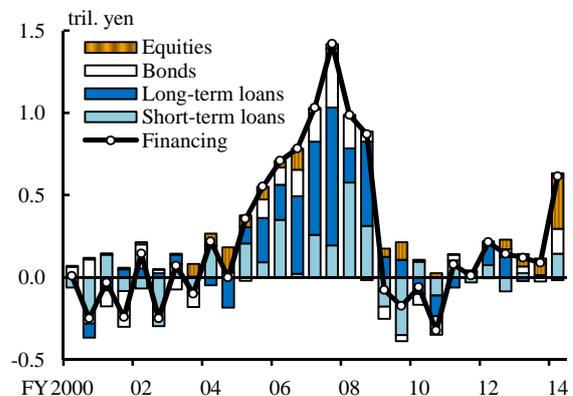
➤ As for funding by listed real estate companies, J-REITs have recently increased their financing significantly, in terms of both bank borrowing and equity financing, to a level exceeding the peak reached in the second half of 2006. Listed real estate companies other than J-REITs have also increased their funding, but the amount of funding is relatively small and borrowing is limited compared with the real estate boom around 2007.

Chart B5-9: Financing by J-REITs



Source: Nikkei Needs.

Chart B5-11: Financing by real estate companies other than J-REITs

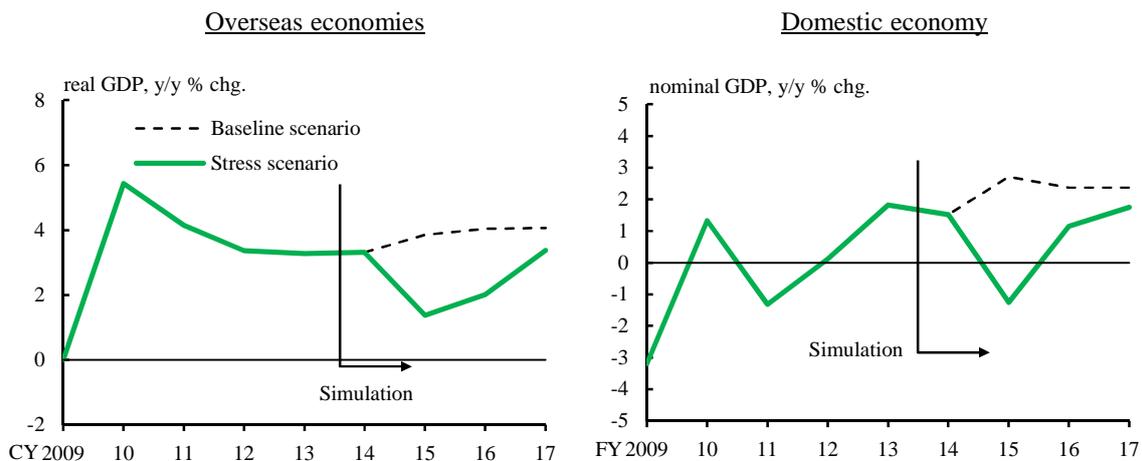


Source: Nikkei Needs.

VI. Risk assessment of the financial system from a macroeconomic perspective 4. Macro stress testing

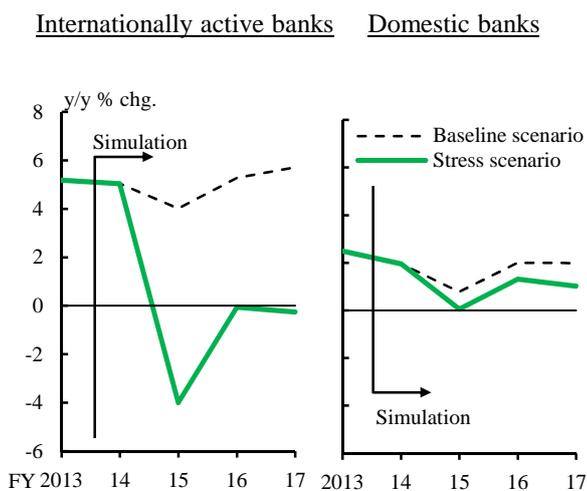
- According to the stress scenario set as the assumption for this test, financial market volatility rises substantially when triggered by a certain event, which raises long-term interest rates at home and abroad by around 2 percentage points -- coupled with the yen's appreciation and a decline in stock prices -- which in turn brings about an economic downturn.

Chart VI-3-1: Overseas economies and the domestic economy



Sources: Cabinet Office, "National accounts"; IMF, "World economic outlook"; Japan Center for Economic Research, "ESP forecasts"; BOJ.

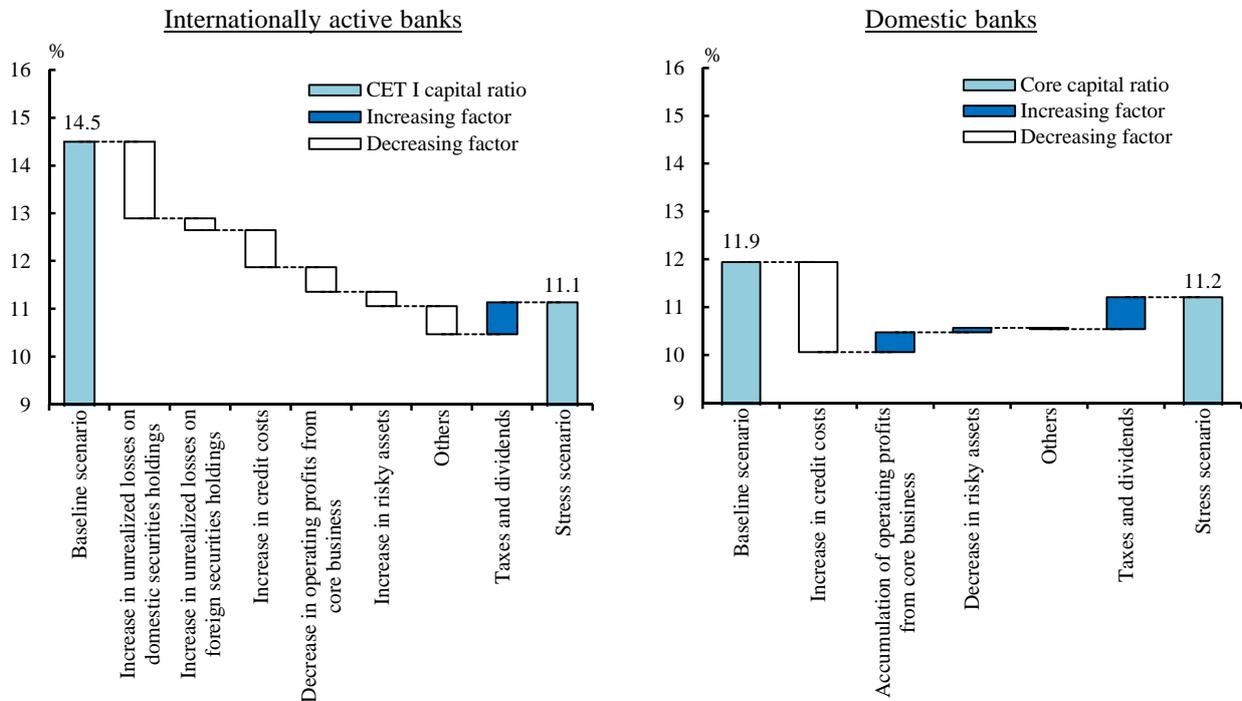
Chart VI-3-4: Loans outstanding



Macro stress testing models the interrelationship between the financial system and the real economy, and simulates the extent of the impact on financial system stability of negative shocks that hit the economy and financial markets. Macro stress testing is a dynamic and forward-looking examination of the adequacy of capital held by financial institutions, taking into account changes in their behavior under certain stressful conditions.

➤ According to the results of macro stress testing, the financial system is considered to have generally strong resilience against various economic and financial shocks at home and abroad.

Chart VI-3-8: Decompositions of the CET I capital ratio and the core capital ratio



➤ The number of financial institutions recording deficits would increase, however. The stress testing presented in this *Report* assumes that the functioning of financial intermediation will not be constrained as long as capital adequacy ratios exceed regulatory levels, even if financial institutions record net losses in their financial statements or incur unrealized losses on securities. However, attention needs to be paid to the possibility that the abovementioned factors will actually act as constraints.

Chart VI-3-9: Net income

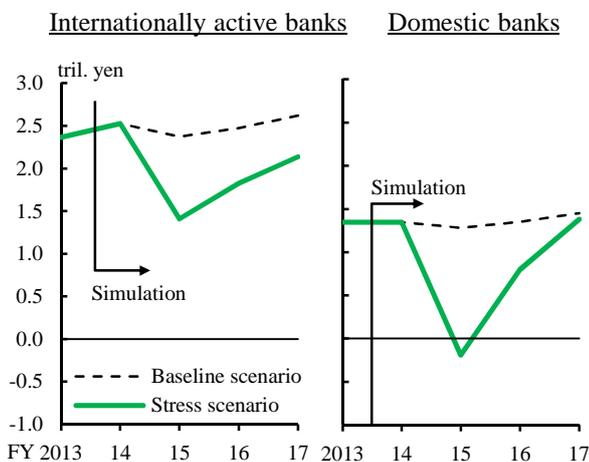
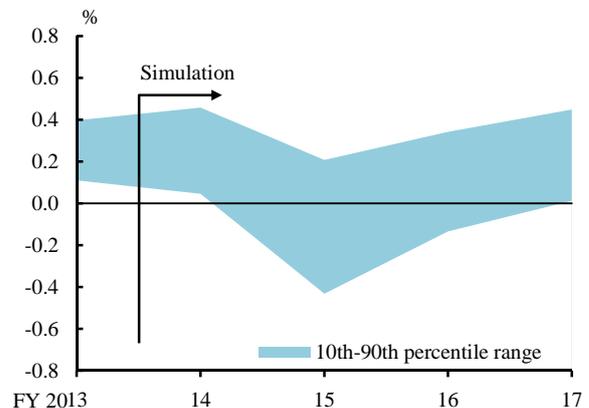


Chart VI-3-10: Net income ROA distribution



VII. Toward ensuring financial stability in the future (1)

-- Macro challenges and management tasks for financial institutions

(Challenges from a macroprudential perspective)

- Japan's financial system has been maintaining stability. In order to ensure the stability in the future, the following challenges lie ahead.
 - (1) keeping a fine balance between macro risks to which financial institutions are exposed and their financial bases (focusing on the risks in the following two points in particular)
 - A. the expansion of international operations (overseas exposure)
 - B. the increased importance of market investment (market exposure)
 - (2) steadily responding to structural changes in risks that might become the source of future fragility for the system
 - C. the increased systemic importance of large financial institutions
 - D. the decline in profitability with regard to domestic deposit-taking and lending activities, especially for regional financial institutions
- In addition, attention needs to be paid to the effects of the following developments on the stability of the financial system.
 - E. changes in households' asset portfolio choices
 - F. the implementation of international financial regulations

(Management tasks and challenges for financial institutions)

– Based on a macro perspective, the following three points can be raised as key management tasks and challenges for individual financial institutions.

(1) the need to strengthen their ability to respond to risks in areas in which financial institutions are actively enhancing their risk-taking stance (the following two areas in particular)

- overseas operations: high growth in foreign assets → the securing of a stable foreign-currency funding base and the strengthening of credit management and other functions
- investment in markets: risk diversification has continued, with interest rate risk being maintained at high levels → taking and managing risks appropriately under clear asset-liability management (ALM) strategy

(2) large financial institutions' need to appropriately deal with their systemic importance

- gaining and maintaining an accurate grasp of global, complex risks
- establishing a robust capital base and securing funding liquidity, both of which are capable of enduring various stressful conditions (examination through stress testing)

(3) regional financial institutions' need to respond to the decline in core profitability

- accurate analysis concerning their own customer bases and profitability
- management and business strategies based on the above analysis
- enhancement of the financial intermediation function: strengthening of financial tools as well as risk management

(Tasks and challenges regarding management of various risks)

→ see Chapter IV (credit, interest rate, stock-related, and funding liquidity)

(Reference 1) Systemic importance of large financial institutions

➤ At large financial institutions, growth in firm size and the diversification of operations, profit sources, and risks have proceeded in a situation whereby they have promoted active financial strategies among group companies, including mergers and acquisitions overseas. At the same time, the interconnectedness of large financial institutions both at home and abroad and the routes by which risks propagate have grown in complexity, mainly through derivatives and funding transactions. In light of their large role in both financial intermediation and the markets, stable business management practices among large financial institutions are also crucial for achieving stability in the financial system and the economy. Thus, from a macroprudential perspective, gaining an accurate grasp of and forming appropriate responses to the aforementioned risk characteristics, in addition to the steady implementation of international financial regulations, become important tasks.

Chart VII-1-2: Assets of three major financial groups and group company's share

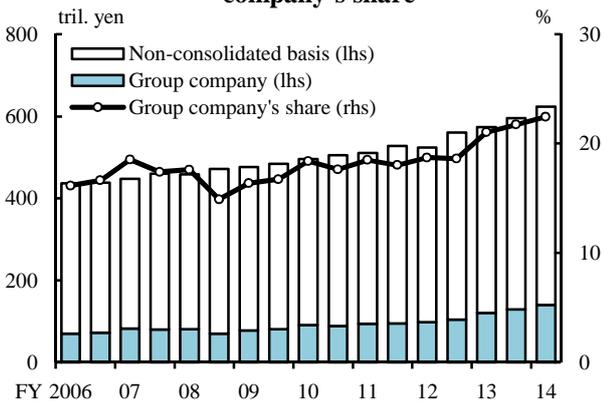
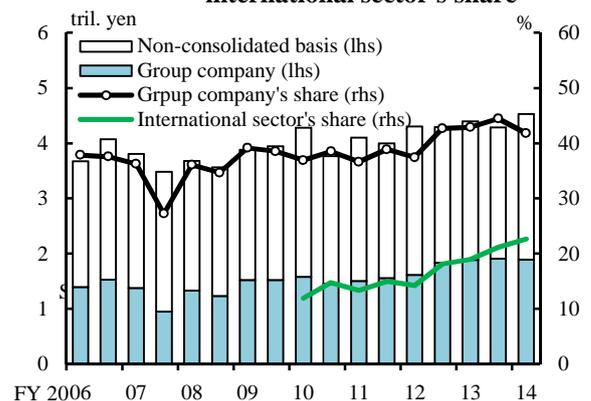
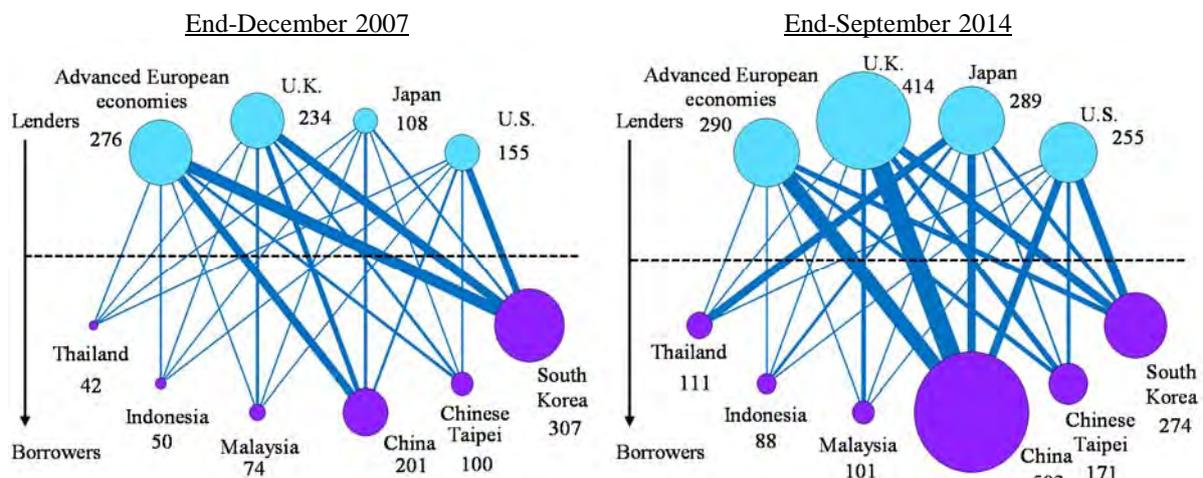


Chart VII-1-3: Gross profits of three major financial groups and international sector's share



Sources: Published accounts of each group; BOJ.

Chart VII-1-5: Interconnectedness of Asian economies and the banking sectors of advanced economies



Source: BIS, "Consolidated banking statistics."

(Reference 2) Profitability among regional financial institutions

➤ While the current low interest rate environment is an important factor underlying the decline in profitability among domestic deposit-taking and lending activities, structural factors such as the reduced economic vitality of Japan and its regions against the background of population decline also play a role. In particular, considering that regional financial institutions generally remain heavily dependent on domestic activities for which deposit-taking and lending are a source of their profits, a prolongation of such reduced economic vitality might restrain their capacity to absorb losses and take risks. It is therefore an important challenge for financial institutions to continue and enhance their efforts to steadily support the vitality of industries and firms.

Chart VII-1-1: Profits from core business by type of bank

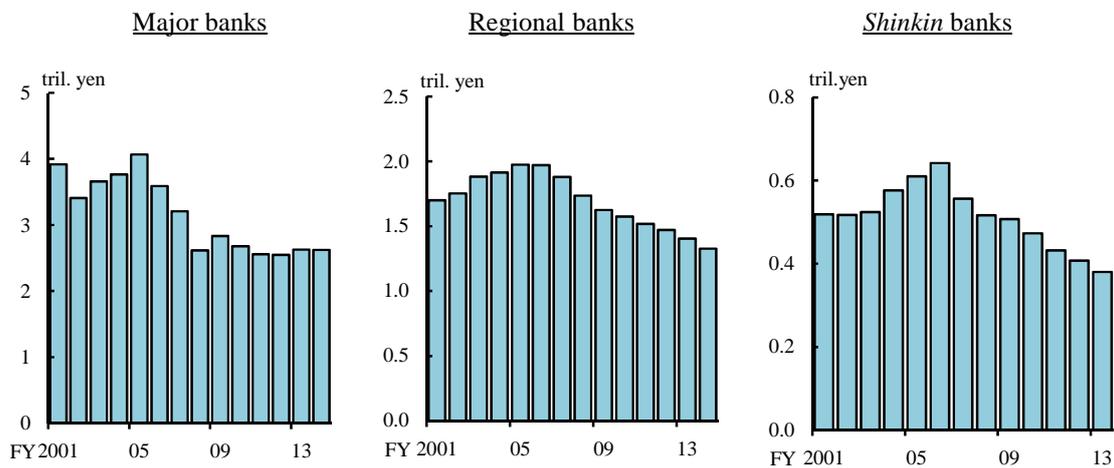
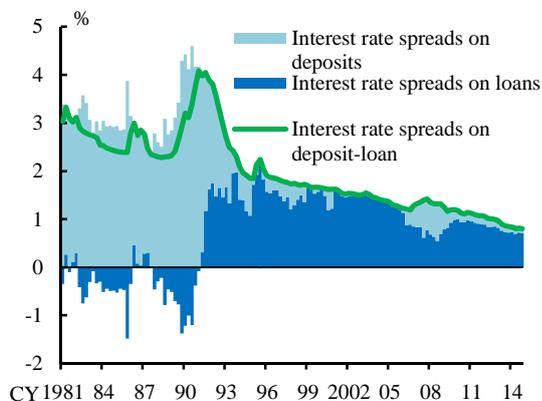
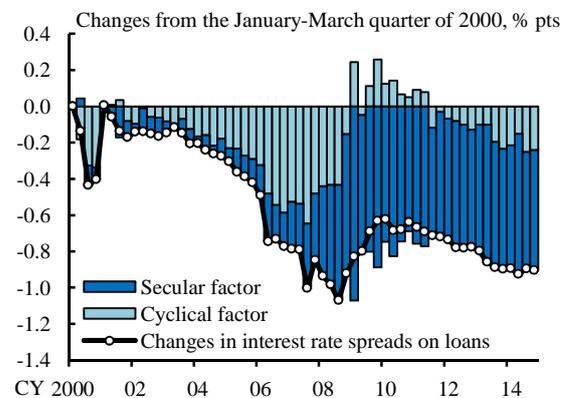


Chart B7-1: Decomposition of interest rate spreads on short-term deposit-loans



Sources: Bloomberg; BOJ.

Chart B7-3: Decomposition of changes in interest rate spreads on loans



Sources: Bloomberg; BOJ.

VII. Toward ensuring financial stability in the future (2)

-- Actions by the Bank of Japan

- The Bank will grasp facts and analyze the situation surrounding the financial system, including the accumulation of macro risks and structural changes among them, while examining resilience against stresses .
- Based on these activities, it will work to share a common understanding and to hold discussions with a wide range of stakeholders in the financial system, presenting specifics on matters including where risks lie and what issues to tackle, thereby responding appropriately to given circumstances.
- Specific actions by the Bank
 - (1) research and analysis: the Bank will deepen its analysis regarding issues including the feedback loop between the real and financial economies and the interconnectedness of financial institutions, while obtaining data for this purpose.
 - (2) seminars and other events: the Bank will take up themes that contribute to enhancing the functioning of financial intermediation and of business and risk management.
 - scheduled themes: financing of PPPs, support for start-up businesses, advancement of financial businesses through IT development, simulation methods for forming financial institutions' medium-term profit outlooks, corporate governance, etc.
 - (3) international financial regulations: the Bank will contribute to the process of establishing standards and implementing them, taking into account the current situation in Japan's financial system and macroeconomic effects induced by such regulations.
 - (4) strengthening of ties with overseas central banks and other organizations

(5) Off-site monitoring and on-site examinations

- The Bank will follow a broad range of proactive financial intermediary activities that utilize the accommodative conditions brought about by QQE.
- The Bank will strengthen its grasp of the actual situation regarding the following points in order to respond to the tasks raised in this *Report*.
 - A. financial institutions' international operations: overseas business strategies by country, region, and currency; loan portfolios; investment and funding structure, etc.
 - B. financial institutions' ALM and investment in markets: understanding various risks in a timely manner; risk management, including the utilization of dynamic methods such as scenario analysis, etc.
 - C. large financial institutions' systemic-risk characteristics and their business management: the advancement of business management methods; developments in management information systems; the utilization of stress testing; contents of various contingency and recovery plans, etc.
 - D. regional financial institutions' profitability: the current situation regarding and the outlook for their customer bases and profitability; responses from the management side taking these factors into account, etc.
 - E. financial institutions' efforts to increase industrial strength; efforts toward enhancing the vitality of their client firms
 - F. market-related businesses conducted by financial institutions and securities firms (e.g., market making, intermediary activities and management of related risks); developments in sales of financial products

Topic 1: Financial institutions' balance sheet changes since the implementation of QQE

- Financial institutions have proceeded with a shift from JGBs to other types of risky assets as they expanded their balance sheets. Most recently, as of December 2014, total assets and liabilities increased by 124 trillion yen compared with December 2012, prior to the introduction of QQE. A breakdown of the increase (124 trillion yen) over the past 2 years shows that on the asset side, cash and deposits (including BOJ current account deposits) increased by 89 trillion yen.
- For the other asset classes, JGB holdings decreased by 34 trillion yen, reflecting the Bank's JGB purchases, while domestic loans, overseas loans, and securities investment excluding JGBs increased by 28 trillion yen, 27 trillion yen, and 12 trillion yen, respectively. These increases exceed the reduction in JGB holdings, suggesting that a shift from JGBs (yen interest rate risk) to other types of risky assets, including credit, stock-related, and overseas interest rate risk, has proceeded.

Chart III-1-29: Assets outstanding among financial institutions

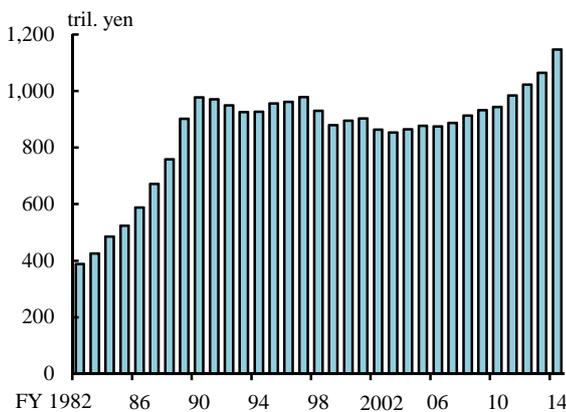
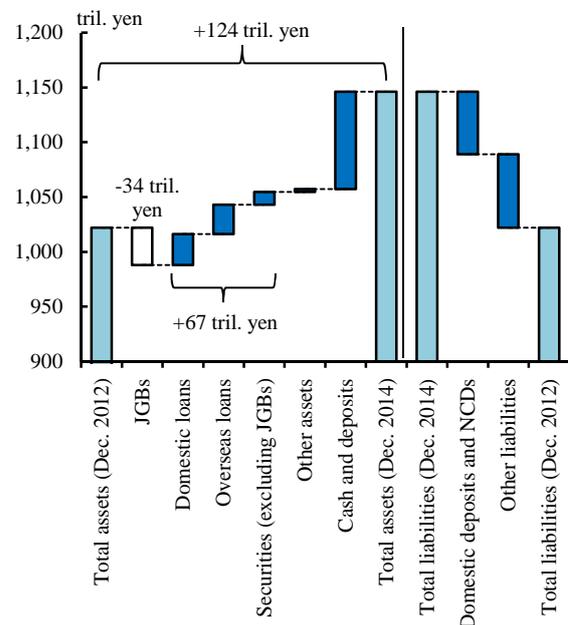


Chart III-1-30: Changes in assets and liabilities among financial institutions



Topic 2: The fall in commodity prices and credit management

- The impact of the fall in commodity prices on financial institutions' loan portfolios is not always the same. For firms and individuals, who are the ultimate users, it can have broadly positive effects through cost reductions, but in terms of improving their creditworthiness as borrowers, its impact is broad and thin. On the other hand, for companies engaged in the development of natural resources or those involved in related activities (e.g., through exploration, drilling, or engineering), it is liable to have a direct, negative impact due to reduced profitability or through lower development activity.
- In addition to corporate loans, financial institutions' resource-related credit includes project finance, which is direct lending to individual development projects. In project finance, financial institutions bear the risk associated with individual development projects. However, the risk burden is generally partly shared by (1) off-takers (through long-term resource purchase agreements), such as electric power companies; (2) resource development companies or other sponsors (through the obligation to make additional equity investments addressed in financial covenants, or capital impairment); or (3) export credit organizations for natural disasters or guarantees in the event of the failure of special purpose companies (SPCs). Consequently, risk characteristics vary from project to project depending on the agreement or scheme which binds it, and thus are complex.
- To date, the fall in commodity prices is thought to have had only a limited impact on Japanese banks' credit costs in both corporate loans and project finance. However, the impact may become more significant, depending on future price movements. Thus, financial institutions need to take further steps in augmenting their stress testing, in analyzing cash flows of relevant firms, and in reviewing the complex risk characteristics of each project.

Chart B2-1: Effects of the fall in commodity prices

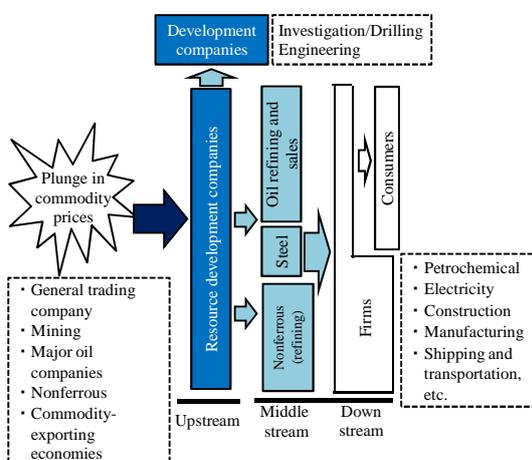
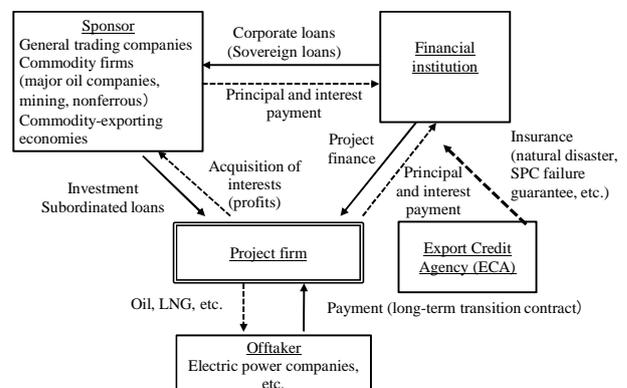


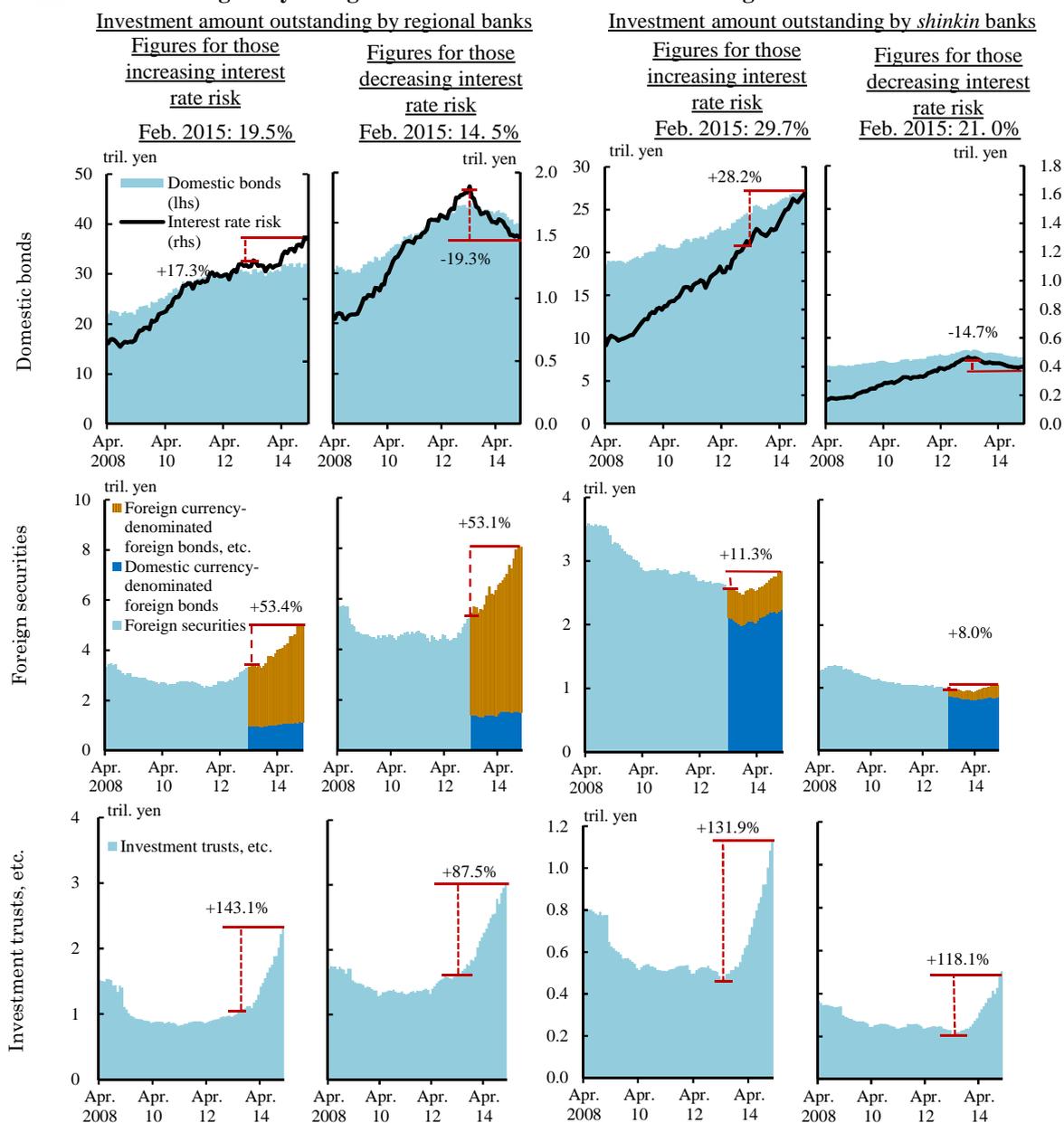
Chart B2-2: Related parties of resource development and financial institutions



Topic 3: Heterogeneity in regional financial institutions' stances toward securities investment

- At the macro level, regional financial institutions' outstanding investment in yen-denominated bonds and the amount of yen-currency interest rate risk they bear have remained more or less unchanged since the introduction of QQE. However, individually, while some regional banks have continued to increase the amount of risk they bear, others have reduced the amount of risk.
- On the other hand, banks increasing their yen-currency interest rate risk and those reducing such risk have both increased their investment in foreign securities and investment trusts. Investment trust portfolios include a diverse range of risky instruments. As such, recent trends suggest that regional banks are, on the whole, taking increasingly diverse risks.

Chart B4-1: Heterogeneity in regional financial institutions' risk-taking stances toward securities investment



Topic 4: Network simulation analysis

- Financial and economic shocks -- declines in stock prices, for example -- have a negative impact on individual financial institutions' balance sheets through losses they incur (the first round effect), and this impact is sometimes amplified through transactions among financial institutions (the second round effect).
- A simulation is conducted to analyze not only the direct impact on the financial institution's financial soundness (the first round effect) in the wake of a rise in interest rates, which operates through unrealized losses on its bondholdings, but also the extent to which the first round effect spreads to other financial institutions through trading relationships associated with interbank lending (the second round effect).
- The chart shows that for some financial institutions, the second round effects on total losses are too large to be ignored.

Chart B6-1: Conceptual diagram of spillover effect

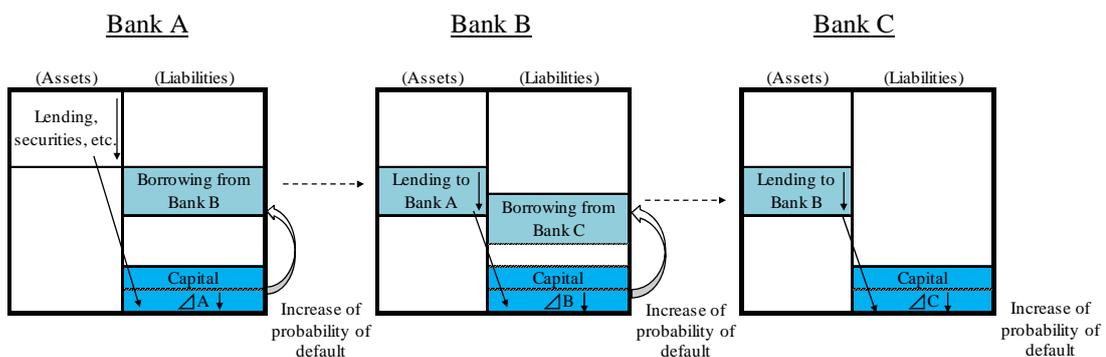


Chart B6-2: Results of analytical network simulation

