

Financial
System
Report

Visual Summary

September 2010
Bank of Japan



Assessment of the current state of Japan's financial system

Japan's financial system has maintained its stability as a whole. In terms of financial intermediation, banks have continued to hold an expanded share in the overall credit markets through lending and investment in bonds. Bank loan rates have been declining markedly. Provision of credit to firms and other entities has been carried out smoothly on the whole. Japan's financial system has also enhanced its robustness.

Nevertheless, due attention should be continuously paid to the spillover risk to Japan of a shock originating in the global financial system amid heightened future uncertainties. On the domestic front, banks' core profitability has fallen further. The overall quality of bank loans has continued to decline. This also warrants vigilance.

Developments surrounding Japan's financial system [Chapter I]

The global financial system has been moving toward stabilization as a trend, albeit moderately. Since the entering 2010, uncertainty about the future has heightened due mainly to the surfacing of the European sovereign debt problems and growing concerns over the slowdown of the U.S. economy.

As for the outlook, in case a balance between fiscal consolidation and economic recovery is disrupted in the advanced economies or economic growth slows down considerably in the emerging economies, a risk could develop that the global financial system might become unstable.

Financial intermediation function [Chapter II and III.D]

Japan's financial system has continued to smoothly carry out the financial intermediation function as a whole.

- Firms' demand for funds has declined as funding conditions of firms, mainly large firms, have stabilized. Funding conditions of small and medium-sized firms have also continued to improve. Nevertheless, not a few such firms still find themselves in a tight funding condition.
- Financial institutions' amount of credit appears to be approximately balanced with economic activity in light of the long-term trend. By type of intermediary, banks have continued to complement part of the credit provision previously made by other financial institutions, including institutional investors. In the meantime, bank loan rates and issuing rates on corporate bonds have been declining extensively.

Robustness of the financial system [Chapter III]

Japan's financial system has enhanced its robustness.

- Japanese banks' amount of various risks relative to their capital decreased against a backdrop of banks' efforts to strengthen their capital bases mainly by successively issuing common shares.
- Banks' funding liquidity risk has been restrained despite growing strains in the global financial markets.
- As for the outlook, banks' capital bases as a whole would avoid being significantly impaired, owing to their recent capital increases and the improvement in the financial standing of large manufacturers in particular, even if a slowdown in economic activity and a plunge in stock prices simultaneously take place under a stress scenario.

The following points warrant attention from the viewpoint of ensuring an ongoing smooth financial intermediation function.

- Room for a further decline in loan rates has seemed to gradually become limited.
- Given the larger share of banks in the credit markets, if a new shock were to hit the banking sector, its effects would likely spread to the overall markets somewhat more directly.
- Banks could perform the financial intermediation function to a lesser degree by reducing lending that would constrain real economic activity in the recovery process, in which banks would restore their capital ratios impaired under the stress scenario.

The financial system still has some points that warrant vigilance.

- A continuous lowering of banks' loan quality and a decline in loan rates have been taking place simultaneously, while banks' core profitability has remained unimproved. Consequently, large credit costs compared with profits could develop, which may reduce banks' profits in future years.
- Interest rate risk has accumulated further particularly at the regional banks amid an increased preference for investment in government bonds.
- Market risk associated with stockholdings remains a significant risk factor, particularly at the major banks, despite their efforts toward progressive reduction.
- The capital ratios of banks with relatively weak profitability and a relatively weak capital base remain at a low level into the future.

Challenges for Japan's financial institutions [Chapter IV.A and C]

To further strengthen the capital bases

- To secure sufficient capital that can cover the losses in case stress impacts the financial system in the future, given the declining quality of bank loans. Banks should strengthen their capital bases, taking account of international moves toward implementing the new capital requirements.

Scheduled reduction of market risk associated with stockholdings

- Banks should continue to reduce their market risk associated with stockholdings systematically after thoroughly examining the merits of business transactions arising from stockholdings in contrast with the associated costs. This would also be beneficial for internationally active banks in dealing with the capital requirements.

To secure stable profits

- Japan's financial institutions are expected to secure profit opportunities by seeking out firms and business areas with high growth potential. They also need to strengthen profitability on a risk-adjusted basis by enhancing the effectiveness of risk management, particularly for credit and market risks.

Bank of Japan's approach [Chapter IV]

<International financial regulatory reform>

Capital requirements, leverage regulations, and the liquidity standard were agreed. Discussions about containing systemic risk are also in process.

<Bank of Japan's approach>

Fund provision to support strengthening the economic foundations

- To raise the growth potential of Japan's economy, the Bank decided to implement a fund-provisioning measure to support strengthening the foundations for economic growth.

Microprudential front

- The Bank gauges business conditions of counterparty financial institutions through on-site examinations and off-site monitoring, and provides advice and guidance about risk management where necessary.

Macroprudential front

- The Bank undertakes research/analysis/assessment of the financial system as a whole utilizing micro/macro information, publishes the findings in its *Financial System Report*, utilizes its assessment in policy conduct, and contributes to discussions about regulatory and supervisory reform.

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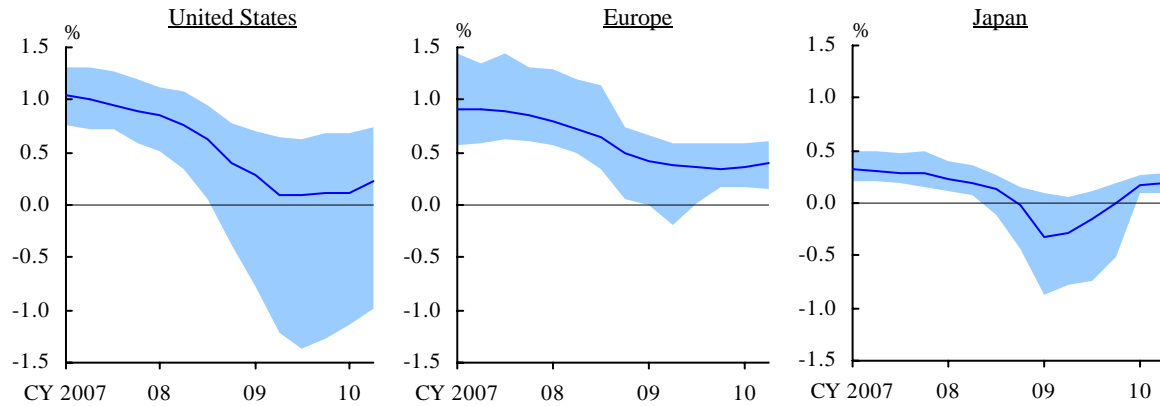
- A. International discussions toward enhancing the soundness of banks
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Uncertainty about the U.S. and European financial system

I. Developments surrounding Japan's financial system

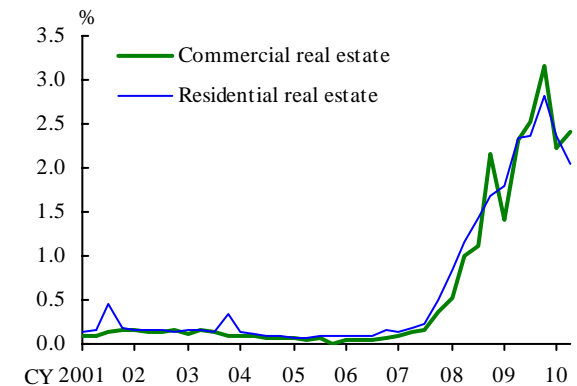
1. The global financial system has been moving toward stabilization as a trend, albeit moderately.
 - Profitability has continued to vary among U.S. financial institutions. The ROA distribution of Japan's financial institutions has been converging.
2. Uncertainty has heightened due to the European sovereign debt problems and concerns over the slowdown of the U.S. economy.
 - The surfacing of the European sovereign debt problems heightened concerns over the creditworthiness of financial institutions in European peripheral countries. The euro funding costs of these institutions increased both in terms of market and deposits funding.
 - In the United States and Europe, the balance-sheet problems continue to weigh on economic activity.

Chart 1-1-3: ROA of financial institutions^{1,2}



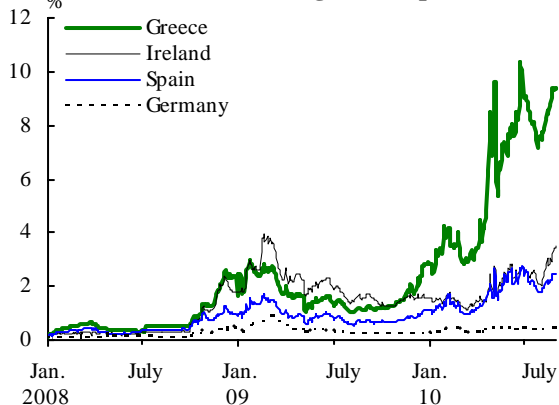
Notes: 1. Shaded areas and solid lines indicate interquartile range (25-75 percentile) and median of financial institutions, respectively.
 2. Listed financial institutions are counted. ROA is the ratio of net income to total assets using a 4-quarter moving average.
 The latest data are as of April-June 2010.
 Source: Bloomberg.

Chart 1-2-2: U.S. loan charge-off ratios¹



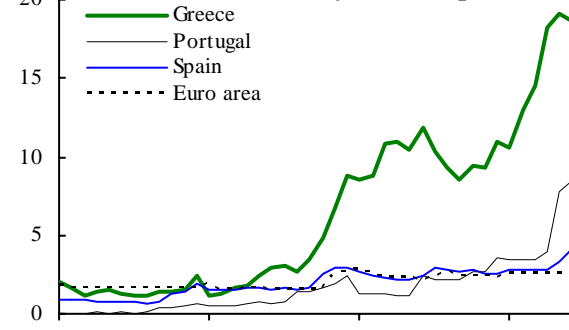
Note: 1. Ratios of net charge-offs to loans.
 Source: FRB, "Charge-off and delinquency rates on loans and leases at commercial banks."

Chart 1-2-3: Sovereign CDS spreads¹



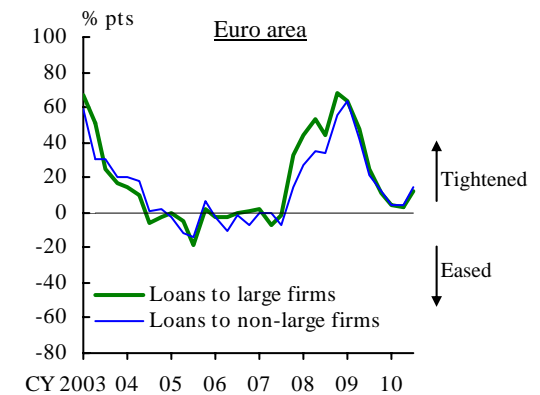
Note: 1. 5-year spreads.
 Source: Bloomberg.

Chart 1-2-6: Funding through ECB's money market operations¹



Note: 1. Ratios of financial sector's funding amount through ECB's money market operations to their liabilities.
 Source: Eurosystem.

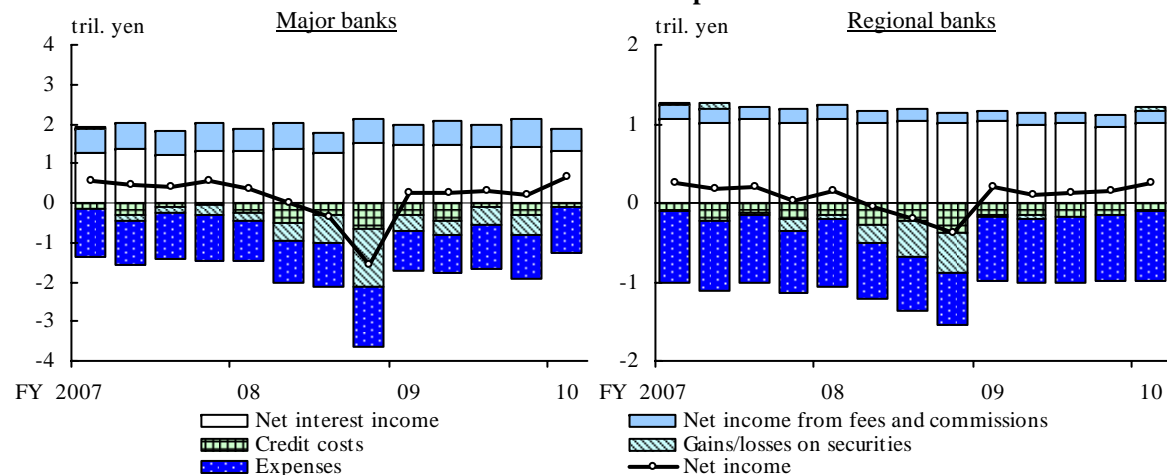
Chart 1-2-9: Lending stance of financial institutions



Source: ECB, "The euro area bank lending survey."

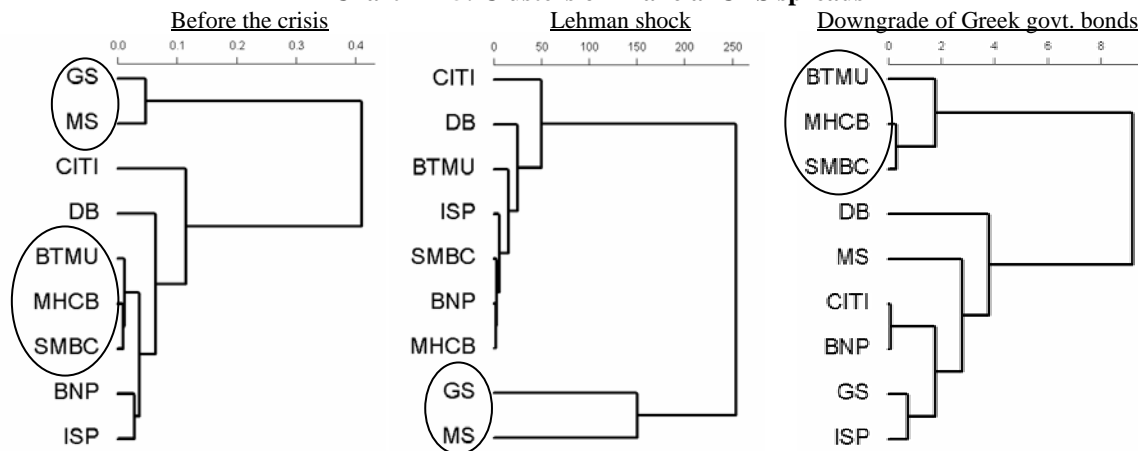
1. Amid the turmoil in global financial markets, Japanese banks' profits have been improving and their funding conditions have also remained relatively stable. Banks' core profitability, however, has deteriorated continuously.
2. The risk that economic and financial systems in the United States and Europe could lose stability might affect Japan's financial system through two channels: the financial channel and the economic activity channel.

Chart 1-4-1: Net income of Japanese banks¹



Note: 1. Credit costs (losses on disposal of nonperforming loans) and expenses are on a non-consolidated basis.
 Source: Financial Quest.

Chart 1-2-5: Clusters of financial CDS spreads^{1,2}



Cluster analysis is a method of grouping similar samples into a subset called a cluster. The result is shown by a tree diagram that visualizes interdependency among whole samples.

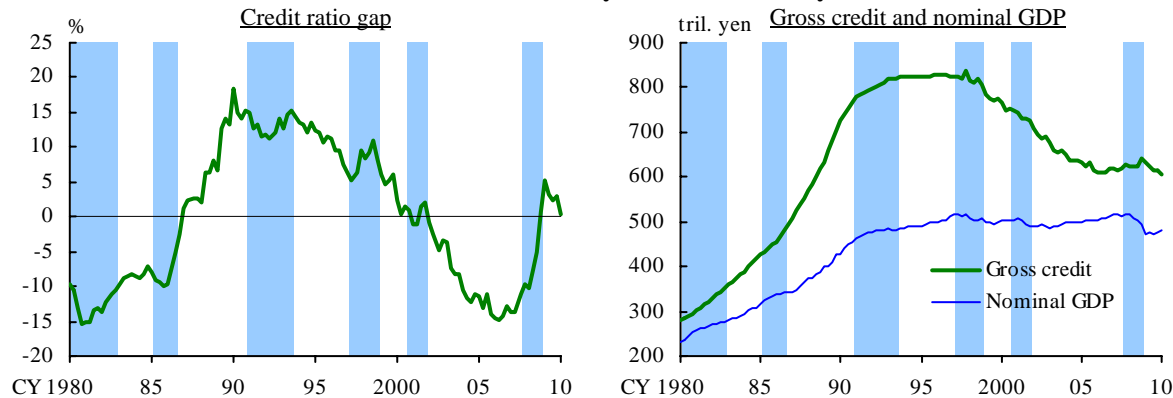
In the first week following the downgrading of Greek government bonds, Japan's financial institutions formed a unique cluster and apparently remained immune to the contagion of counterparty risk concerns.

Notes: 1. CITI: Citigroup, GS: Goldman Sachs, MS: Morgan Stanley (in the United States), BNP: BNP Paribas, DB: Deutsche Bank, ISP: Intesa Sanpaolo (in Europe), BTMU: The Bank of Tokyo-Mitsubishi UFJ, MHCBC: Mizuho Corporate Bank, SMBC: Sumitomo Mitsui Banking Corporation (in Japan).
 2. The smaller number in the horizontal axis indicates the closer similarity (distance) among samples.

1. Financial institutions' amount of gross credit (loans and bond investment) appears to be approximately balanced with economic activity in light of the long-term trend.

- In the recent economic downturn, economic activity contracted on an unprecedented scale. On the other hand, gross credit increased and underpinned firms' funding conditions.
- Banks have continued to hold an expanded share in the overall credit markets. After the Lehman shock, banks' credit provision offset the decline in credit share of institutional investors.
- Credit to the government sector has increased. The government bond market saw an inflow of funds from institutional investors and banks.

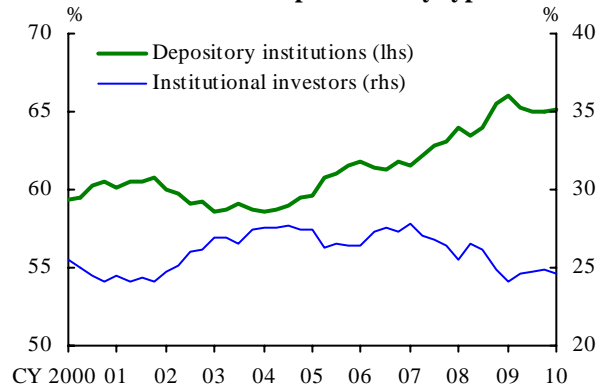
Chart 2-1-1: Credit cycle and business cycle¹



The credit ratio gap is the divergence of the ratio of gross credit to GDP from its long-term trend. The trend line is drawn using the HP filter with a smoothing parameter of 400,000.

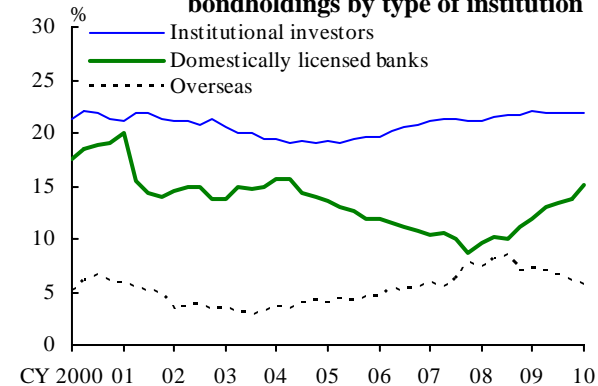
Note: 1. Shaded areas indicate recession periods.
Sources: Cabinet Office, "National accounts"; BOJ, "Flow of funds accounts."

Chart 2-1-2: Shares of credit provision by type of institution¹



Note: 1. Institutional investors include investment trusts, insurance companies, and securities firms.
Source: BOJ, "Flow of funds accounts."

Chart 2-1-4: Shares of government bondholdings by type of institution

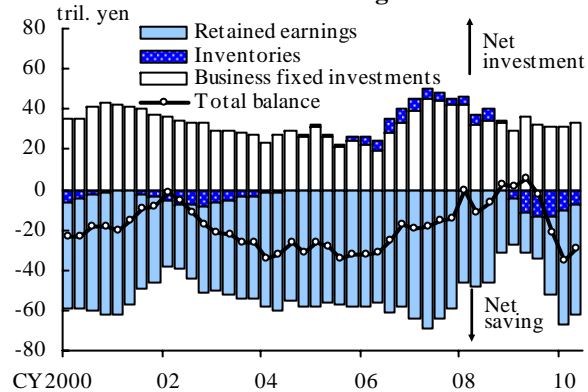


Source: BOJ, "Flow of funds accounts."

Firms' sluggish demand for funds

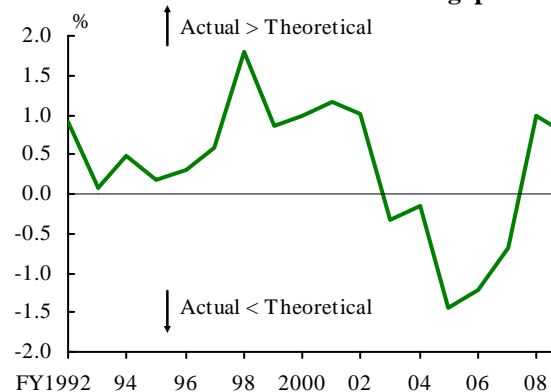
1. Firms' cash flows, which plunged immediately after the Lehman shock, have been improving as a whole.
2. Excess production capacity remains, although it has been perceived as declining. Firms' investment-saving balance has been at record-high excess saving, which makes it unlikely that firms will increase their demand for external funds in the near future.
 - Since the outbreak of the financial crisis, large firms in particular have accumulated and are maintaining a high level of on-hand liquidity relative to sales. However, firms' funding conditions continue to vary. Given that credit management of business-to-business credit has remained tight, the ratio of business-to-business credit to the amount of sales has remained at a low level compared with that prior to the financial crisis.

Chart 2-2-2: Investment-saving balance of firms



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

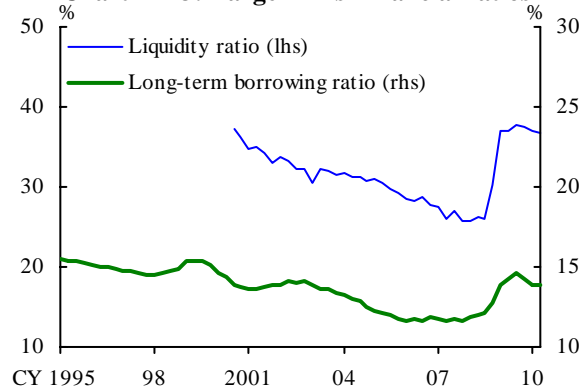
Chart B3-2: Firms' debt ratio gap¹



Note: 1. The latest data are as of the end of fiscal 2009.

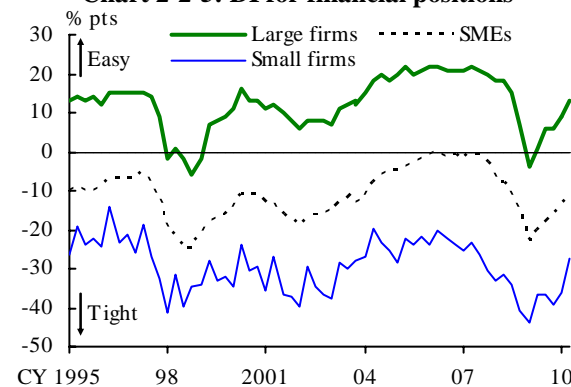
If the debt ratio gap, the differential between the actual and theoretical debt ratio, is positive -- that is, the actual ratio is larger than the theoretical one,-- firms are likely to put priority on reducing the amount of debt into the near future, all else being equal, and thus demand for debt financing is unlikely to expand.

Chart 2-2-3: Large firms' financial ratios



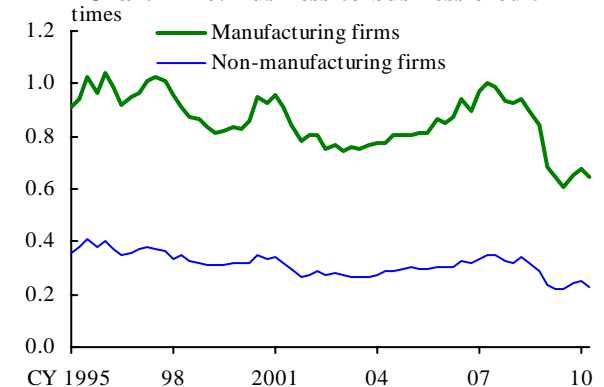
Source: Ministry of Finance, "Financial statements statistics of corporations by industry, quarterly."

Chart 2-2-5: DI for financial positions¹



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

Chart 2-2-6: Business-to-business credit¹

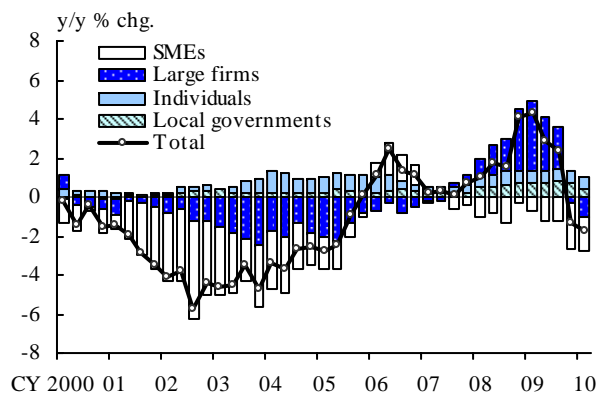


Note: 1. Ratios to sales. Source: Ministry of Finance, "Financial statements statistics of corporations by industry, quarterly."

Financial intermediation amid declining fund demand

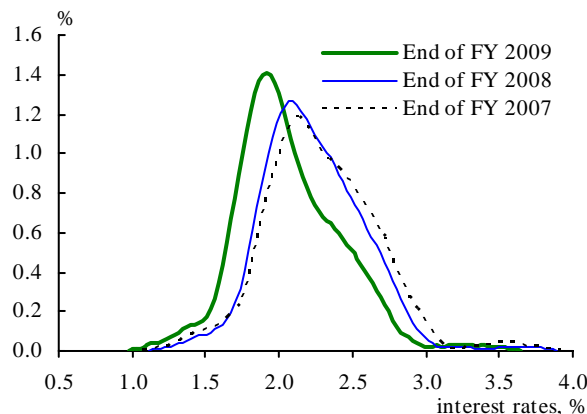
1. Loans to small and medium-sized firms have registered negative growth on a year-on-year basis, and the pace of decline in loans to large firms has accelerated.
2. Bank loan rates and issuing rates on corporate bonds, including long-term credits and credits to firms with relatively low credit ratings, have been declining extensively. This is consistent with a decline in firms' borrowing demand.
3. Loans to small and medium-sized firms with full public guarantee recently declined to some 50%. As a result, the growth of outstanding balance of loans with public guarantee has shown a marked slowdown.

Chart 2-3-1: Bank loans outstanding^{1,2}



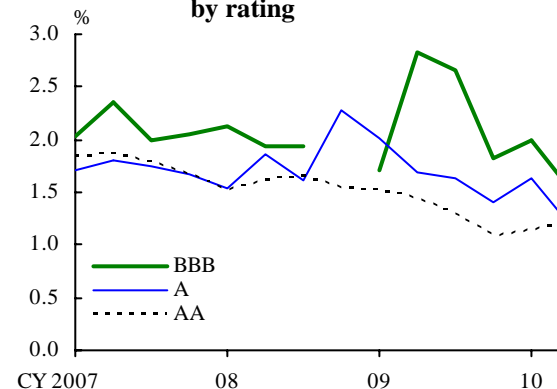
Notes: 1. SMEs stand for small and medium-sized firms.
 2. Individuals include house and room lessors.
 Source: BOJ, "Loans and discounts outstanding by sector."

Chart 2-3-2: Distribution of average loan rates¹



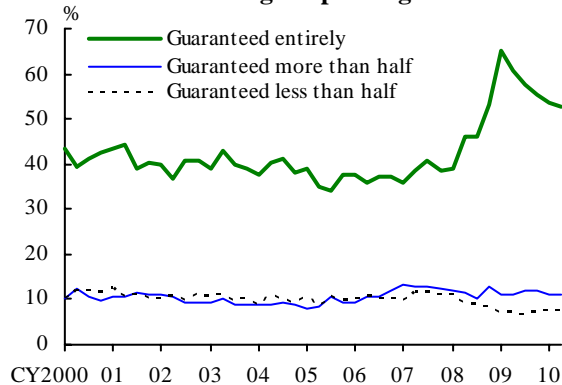
Note: 1. The vertical axis indicates share of banks by average interest rate on loans.

Chart 2-3-3: Issuing rates of corporate bonds by rating



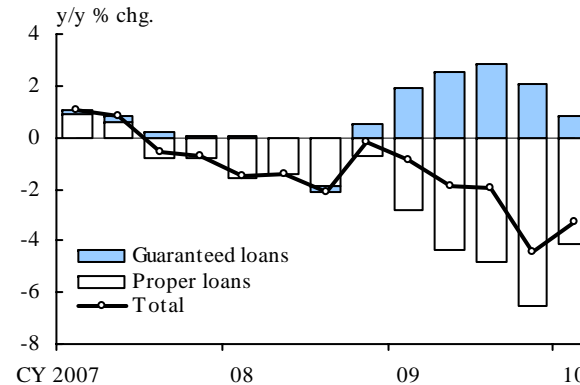
Source: Japan Securities Dealers Association, "Issuance of bonds' list."

Chart 2-3-5: Usage of public guarantee¹



Note: 1. Percentage of small and medium-sized firms' borrowing with public guarantee in each quarter.
 Source: Japan Finance Corporation, "Surveys of financial trends among SMEs subject to guarantees."

Chart 2-3-6: Loans to small and medium-sized firms¹

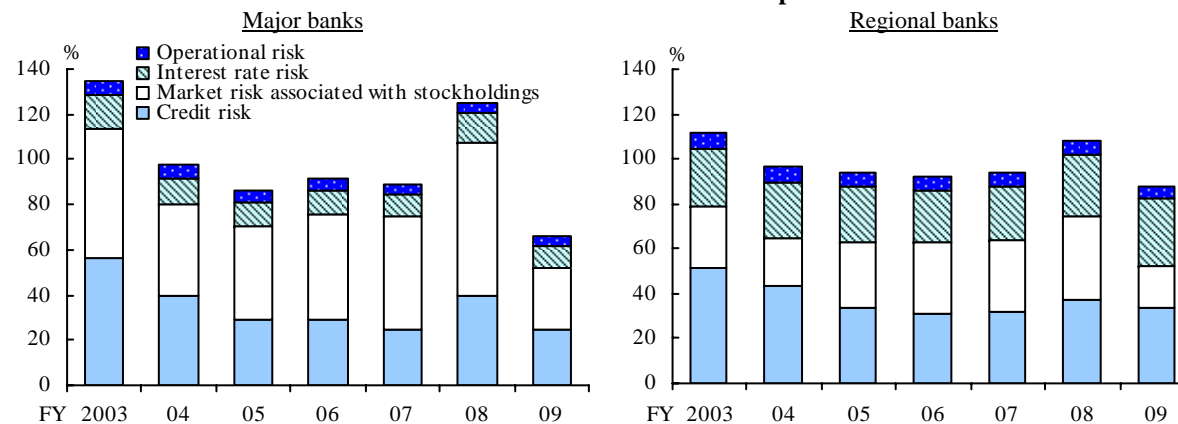


Note: 1. Loans outstanding of city banks, regional banks, and *shinkin* banks.
 Sources: National Federation of Credit Guarantee Corporations; BOJ, "Loans and discounts outstanding by sector."

1. Japanese banks' amount of various risks relative to Tier I capital decreased in FY2009 to levels seen prior to the Lehman shock both at the major banks and the regional banks.

- Banks' capital bases have been reinforced through measures such as capital increases since FY2009.
- The banks' credit costs have continued to be contained due to improvement in firms' business performance as well as policy effects.
- Market risk associated with stockholdings has been reduced along with the progressive reduction of stockholdings by many Japan's banks. However, the risk still occupies a large share of overall risks, especially at the major banks.
- Many banks have been increasing their holdings of government bonds and thus interest rate risk has been accumulating further.
- Funding liquidity risk has been restrained at a low level both in yen and foreign currency even since the surfacing of the European sovereign debt problems.

Chart 3-1: Risks relative to Tier I capital¹⁾



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

1. The credit cost ratio for the major banks and the regional banks in FY2009 declined from the previous fiscal year due mainly to a drop in write-offs and provisions for loan losses. By sector, the credit cost ratio declined from the previous fiscal year in both the domestic business sector and the international business sector.
2. As a background to the decline in credit costs, there is improvement in firms' debt servicing capacity that is attributable to recovery in corporate profits, mainly of large manufacturing firms.
 - The ratio of interest-bearing debt to cash flow, the interest coverage ratio (profits / interest expenses), and the quick ratio (quick assets / short-term debt) have all improved.

Chart 3-1-1: Credit costs

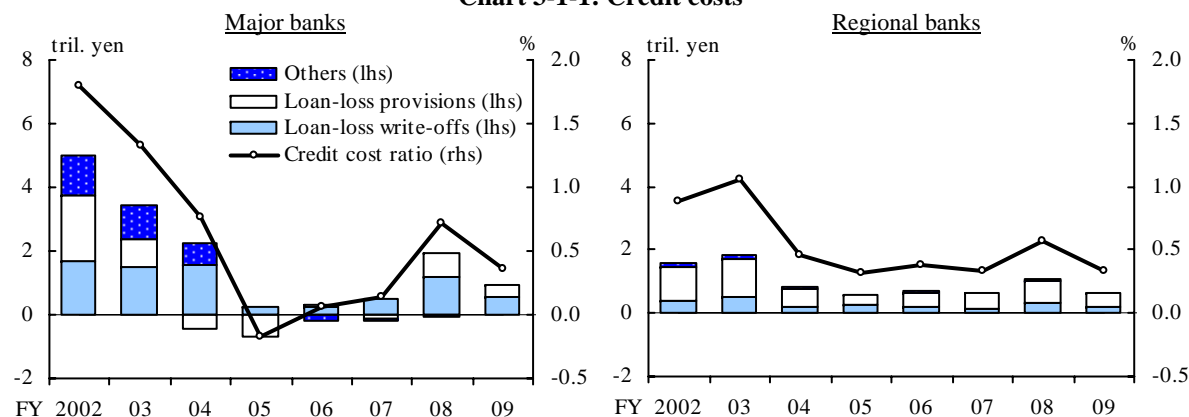
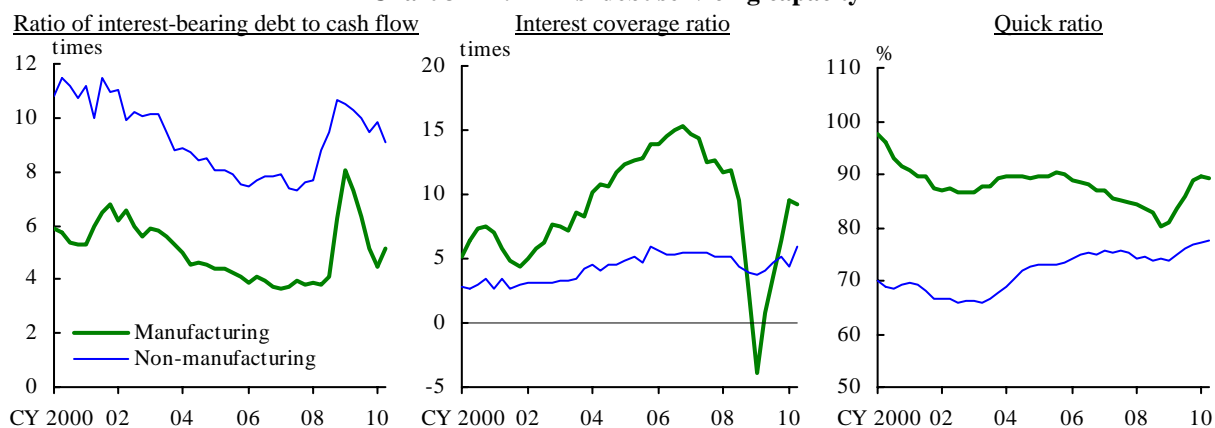


Chart 3-1-2: Firms' debt servicing capacity



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

1. Banks' loan quality has been declining, and banks are prone to incur relatively large credit costs when a new shock occurs. Some non-manufacturing firms and small and medium-sized firms have generally been facing weak financial conditions.
 - Due to the relaxation of the requirements for restructured loans and the public guarantee, it became difficult to reflect loans whose quality had actually been declining in the credit costs on the financial statements. For example, the default rate on mortgage loans purchased by the Japan Housing Finance Agency has recently been surging. Those defaults are defined as loans delinquent for 6 months or more including those made so by restructuring.
 - A certain portion of credit risk associated with small and medium-sized firms has been transferred outside the banking system via public guarantee.

Chart 3-1-4: Loans outstanding by borrower classification

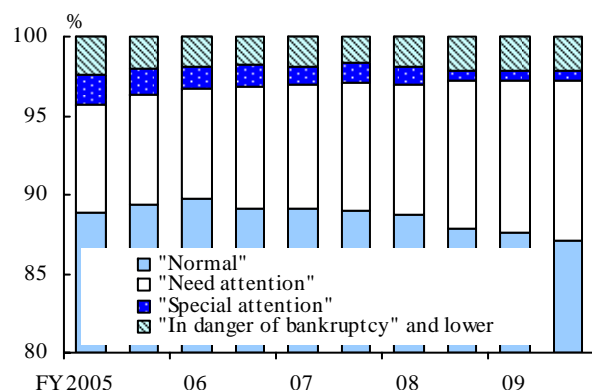
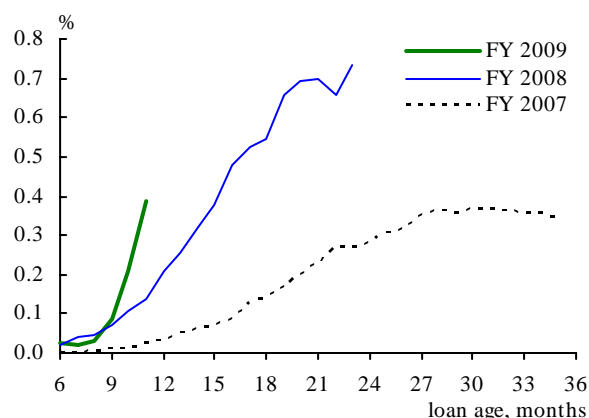
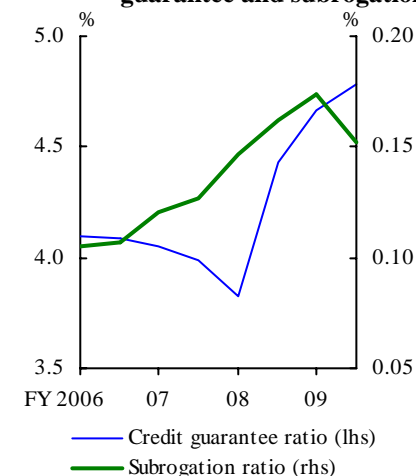


Chart 3-1-5: Default rates on mortgages^{1,2}



Notes: 1. Defaults are defined as loans delinquent for 6 months or more including those made so by restructuring (in terms of cases). Mortgages purchased by the Japan Housing Finance Agency are counted by vintage year.
 2. 12-month moving averages of annualized rates.
 Source: Japan Housing Finance Agency, "Published accounts."

Chart 3-1-7: Credit guarantee corporations' guarantee and subrogation¹

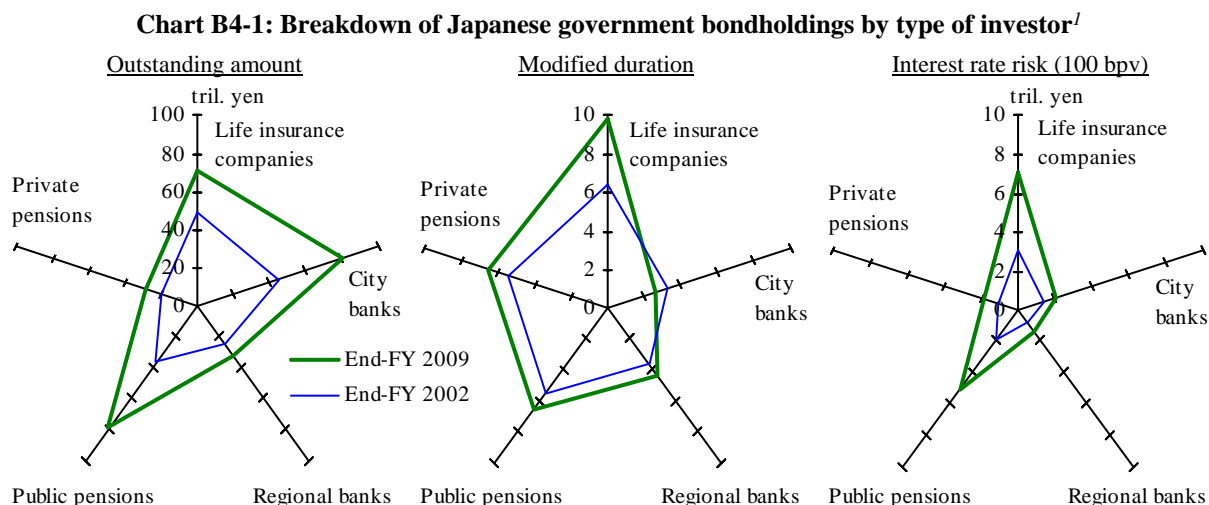


Note: 1. Ratios to loans outstanding.
 Sources: National Federation of Credit Guarantee Corporations; BOJ.

1. A wide range of Japan's private financial institutions have increased their holdings of government bonds. At present, banks' holdings of government bonds add up to more than 100 trillion yen, followed by life insurance companies.

- Banks' increase in bond investment has resulted from the circumstances faced by banks in which deposits have been flowing while lending has been declining. Banks' outstanding balance of government bonds as of end-FY2009 marked a record high, substantially exceeding that during the quantitative easing policy.
- The increase in interest rate risk (100 basis point value) of life insurance companies is mainly attributable to their incentive to reduce the duration mismatch between assets and liabilities.

* 100 basis point value (100bpv) is interest rate risk calculated under the assumption that interest rates rise simultaneously by 1%pt for all maturities.



Note: 1. Modified duration indicates the impact of interest rate changes on bond prices and is proportional to the average maturity.
Source: Mizuho Securities.

1. The 100 basis point value of interest rate risk rose in FY2009 by slightly less than 250 billion yen at the major banks and about 500 billion yen at the regional banks, respectively. At the major banks, the ratio of interest rate risk to Tier I capital was contained around the average level seen in the past 10 years. On the other hand, at the regional banks, the ratio further increased to exceed 30% relative to Tier I capital.
 - Interest rate risk on loans slightly decreased at the major banks but it was almost unchanged at the regional banks.
 - Interest rate risk on bondholdings increased both at the major banks and the regional banks.
2. A stark contrast can be found in the maturity of bonds between the major banks and the regional banks.
 - The major banks have shortened their average maturity of bondholdings to about 2 years by increasing investment in short- to medium-term bonds.
 - The regional banks further increased their investment in bonds with maturities longer than 5 years, and the average maturity of their bondholdings has lengthened to more than 3.5 years.
3. It is important to establish a risk management framework that gauges risk from multiple perspectives, since the risk assessment could vary considerably depending on the measurement methods and the assumptions.

Chart 3-2-1: Interest rate risk (100 basis point value)

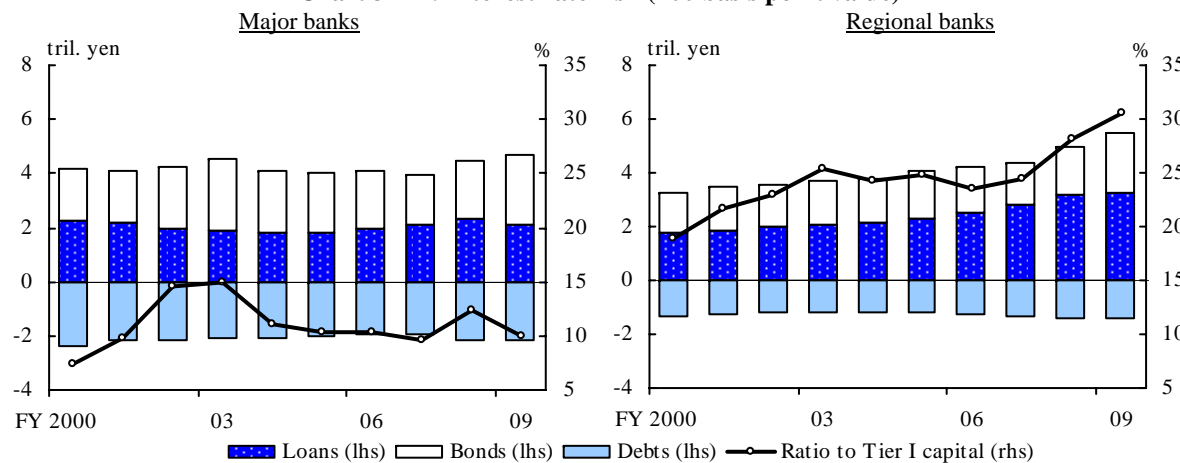
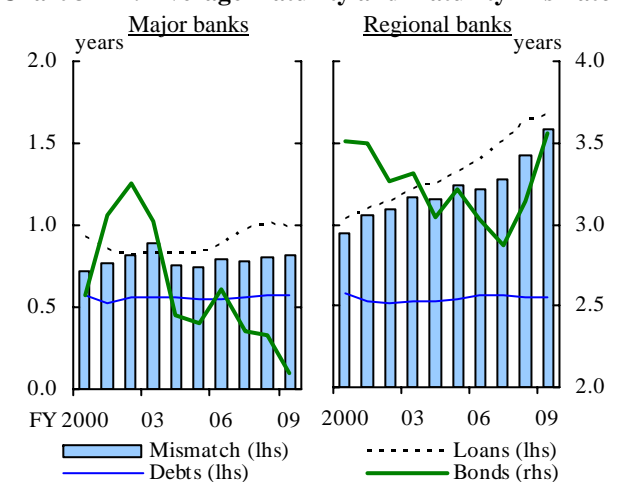


Chart 3-2-2: Average maturity and maturity mismatch



1. Reflecting a maturity mismatch between longer-term investment and shorter-term funding, the increase in the interest payment for short-term funding would exceed interest received from loans and bondholdings at the early stage of a rise in interest rates.
 - For the regional banks that have an increased maturity mismatch, the downward pressure on interest income would become larger. On the other hand, the interest income of the major banks, which have shortened the average maturity of bondholdings, is likely to increase.
2. Since the bondholdings increased at both the major banks and the regional banks, the effects of a decline in market value on unrealized gains/losses of bondholdings would increase.
 - Such an effect would be larger under the parallel shift and flattening, in which hedging the interest rate hike by floating rate notes is less effective.

Chart 3-2-5: Upward shift in spot rate curves for scenarios

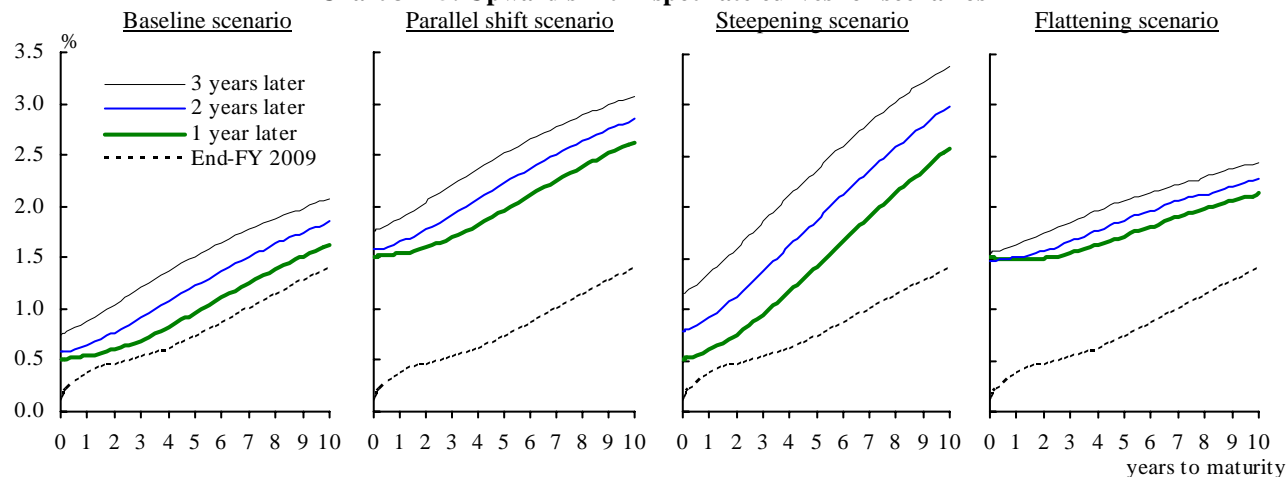
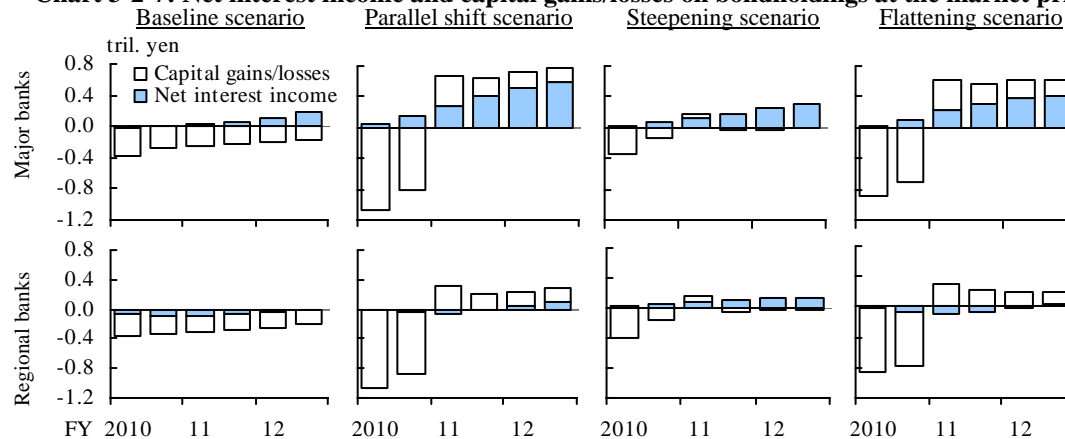


Chart 3-2-7: Net interest income and capital gains/losses on bondholdings at the market price¹



Note: 1. Figures for the baseline scenario are changes from the actual levels in the second half of fiscal 2009. Figures for the other three scenarios are changes from those for the baseline scenario.

[Yen currency]

1. The major banks and the regional banks have enhanced their robustness against liquidity shocks. In September 2010, in response to the failure of the Incubator Bank of Japan, the first failed bank resolution under the limited protection of deposits was executed. Nevertheless, funding conditions have remained stable for other financial institutions.

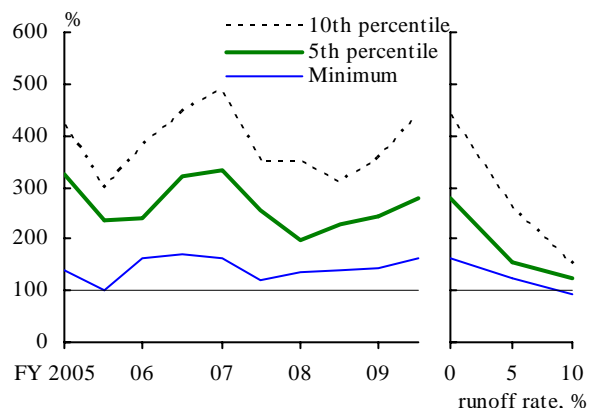
- Under an assumption of a strong liquidity shock in which market funding stops completely for 3 months to come, both the major banks and the regional banks would continue to secure a sufficient level of liquid assets to meet short-term demand for funds (the left-hand side of Chart 3-3-2).
- Even under a stronger liquidity shock in which markets freeze completely and a certain portion of deposits is drained, most banks would hold sufficient levels of liquid assets to weather the shock (the right-hand side of Chart 3-3-2).

[Foreign currency]

2. Japanese financial institutions' funding liquidity risk in foreign currency has been generally restrained even though foreign currency money markets have become somewhat unstable.

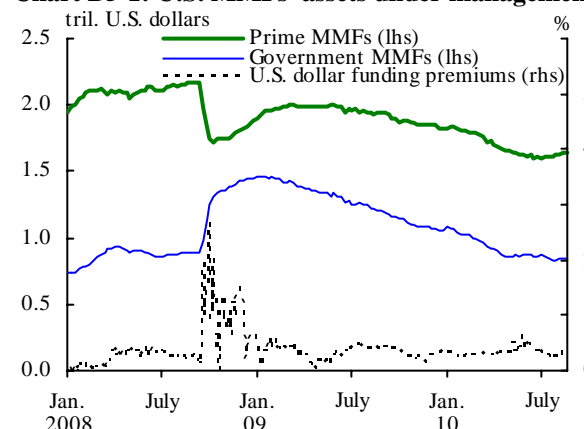
- At the time of surfacing the European sovereign debt problems, U.S. MMFs' risk-taking stance did not become as cautious as at the time of the Lehman shock. In the dollar money market as a whole, the funding conditions did not deteriorate much, unlike the case of the Lehman shock.

Chart 3-3-2: Liquidity asset ratios¹



Note: 1. Left chart: distribution of the liquidity asset ratio when the deposit runoff rate is 0 percent. Right chart: distribution of the ratio when the runoff rate changes from 0 to 10 percent based on the level at the end of fiscal 2009.

Chart B5-1: U.S. MMFs' assets under management¹



Note: 1. U.S. dollar funding premiums are 3-month spreads of FX swap-implied U.S. dollar rates from the euro over U.S. dollar Libor.

Sources: Investment Company Institute, "Weekly money market fund assets"; Bloomberg.

- For banks as a whole, Tier I capital increased by 20% in FY2009. In particular, internationally active banks, which are subject to international capital requirements, increased Tier I capital by 30% through not only an accumulation of retained earnings but also large-scale issuance of common shares.
 - In FY2009, banks as a whole accumulated 1 trillion yen of retained earnings while increasing their dividend amount.
- For both internationally active banks and domestic banks, the proportion of common equity has increased from slightly below 60% to 70% in FY2009.
 - Many domestic banks have received public funds in the form of preferred stocks, which are considered to have a high loss-absorbing capacity. Therefore, the proportion of preferred stocks for domestic banks is larger than that for internationally active banks.
 - The proportion of preferred investment securities, which are subordinate to common shares from the viewpoint of perpetuity as capital, in Tier I capital of internationally active banks declined from 23% to 17% in FY2009.

Chart 3-4-1: Changes in Tier I capital^{1,2}

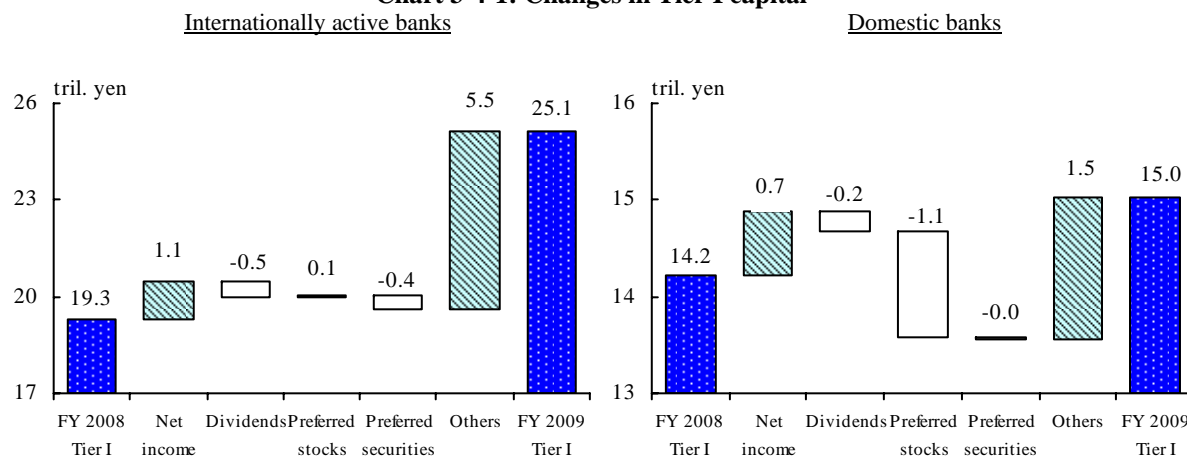
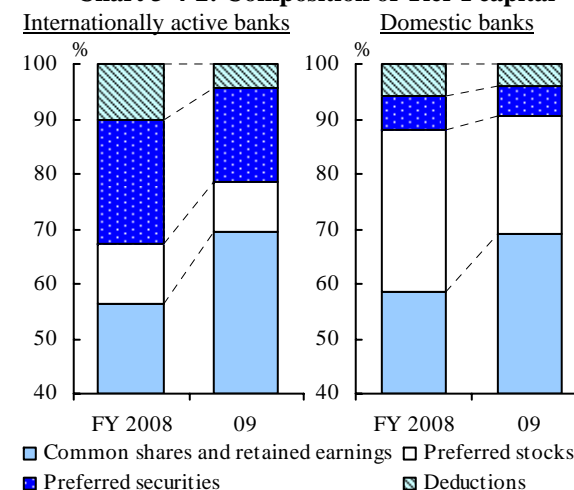


Chart 3-4-2: Composition of Tier I capital¹

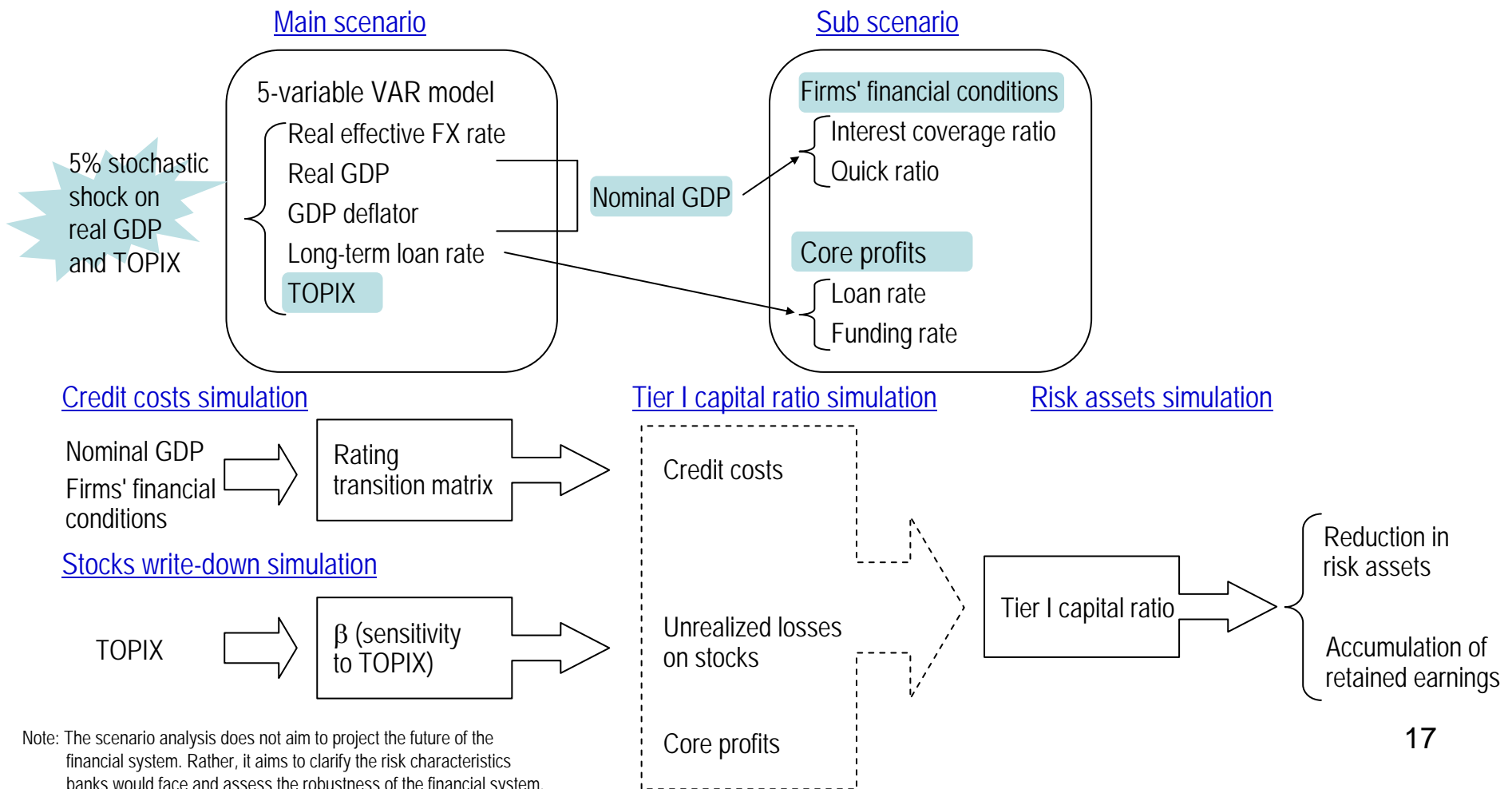


Notes: 1. Shaded and white bars are the increasing factor and the decreasing factor of Tier I capital, respectively.
 2. "Others" includes common shares and deductions.

Note: 1. Deductions are unadjusted.

Stress scenario of macroeconomic shocks

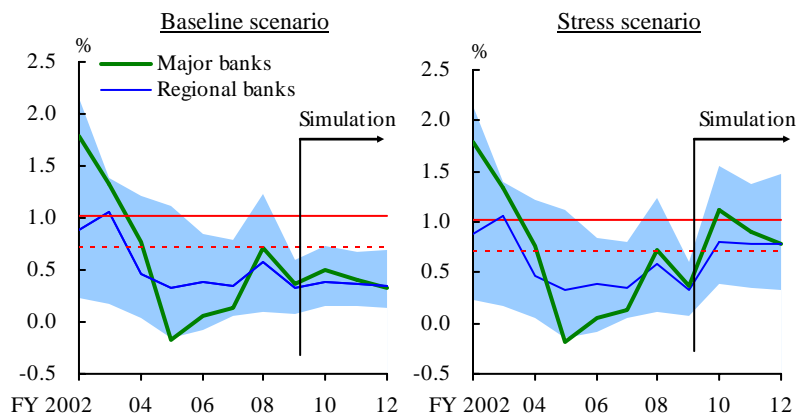
1. Baseline scenario: the future nominal GDP grows at 1.0-1.5% per annum in line with private forecasts and converges to the past average level over time.
2. Stress scenario: a simultaneous negative shock occurs with a probability of 5% -- that is, a frequency of once in 5 years on a quarterly basis -- to the economy and stock prices, respectively. In response to the shock, other macroeconomic variables change.
 - The nominal GDP would slightly decline by 0.4% per annum in FY2010 and by 0.2% in FY2011. TOPIX would decline to 752pts, which corresponds to the lowest range since the bursting of the bubble economy, toward end-FY2011, and rebound to 801pts toward end-FY2012. The long-term loan rates would decline by 0.1%pts toward end-FY2012.



Note: The scenario analysis does not aim to project the future of the financial system. Rather, it aims to clarify the risk characteristics banks would face and assess the robustness of the financial system.

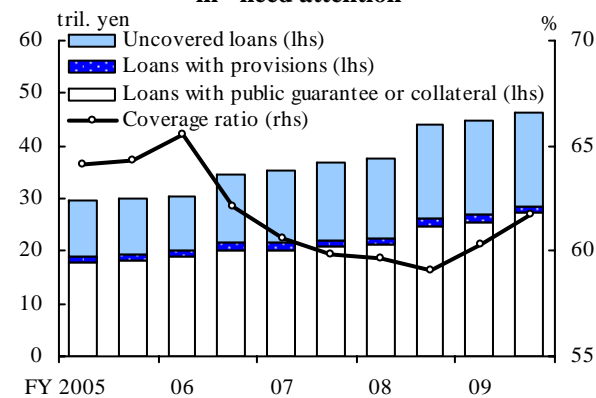
1. Under the stress scenario, the estimated credit cost ratio for the major banks would rise in FY2010 slightly above their break-even point measured by operating profits from core business and would be below the break-even point in FY2011 onward. As for the regional banks, the increase in the estimated credit cost ratio would be contained at a slightly higher level than their break-even point.
 - The result is to a large extent attributable to the improvement in large firms' financial conditions in the past half year.
 - Banks, including the regional banks, raised the loan coverage ratio -- the proportion of protection by provisioning and other measures.
 - The credit cost ratio under the baseline scenario would remain almost unchanged in FY2010 onward.
2. However, compared with the past stress phases, the credit cost ratio under the stress scenario would exceed the level at the time of the Lehman shock in FY2008 both at the major banks and the regional banks.

Chart 3-1-9: Credit cost ratios¹⁾



Note: 1. Shaded areas indicate 10-90th percentile range. The horizontal lines indicate the break-even points of the major banks (solid line) and the regional banks (dashed line) at fiscal 2009.

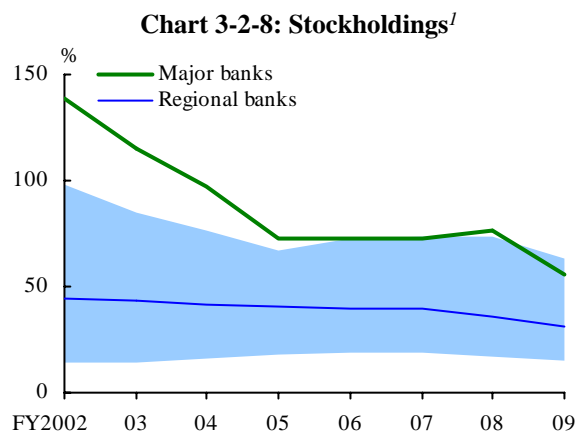
Chart 3-1-10: Coverage ratios of loans classified in "need attention"¹⁾



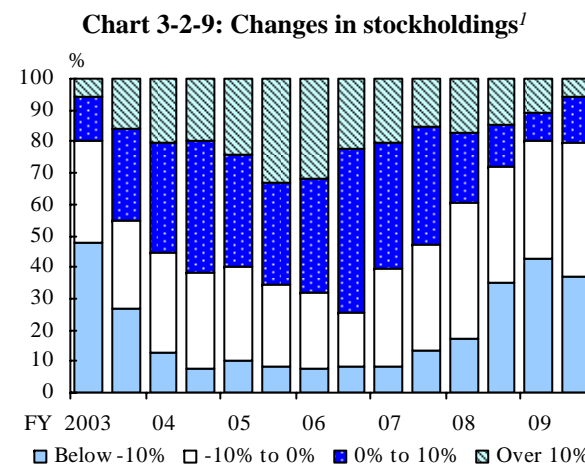
Note: 1. Coverage ratio is the ratio of loans outstanding with public guarantee, collateral or provisions to the loans outstanding classified in "need attention."

Scenario analysis on unrealized losses on stockholdings

1. Many banks have been making specific efforts by putting managerial priority on reducing market risk associated with stockholdings.
 - Since FY2008, the majority of banks have reduced stockholdings -- at present, almost 80% of banks have done so.
2. Under the stress scenario, in which TOPIX declines to 752pts toward end-FY2011, net unrealized losses on stockholdings could arise. The Tier I capital ratio could be reduced by about 0.4%pts.
 - In particular, since the major banks hold relatively large holdings of strategic stocks, the decline in the Tier I capital ratio would amount to 0.6%pts.



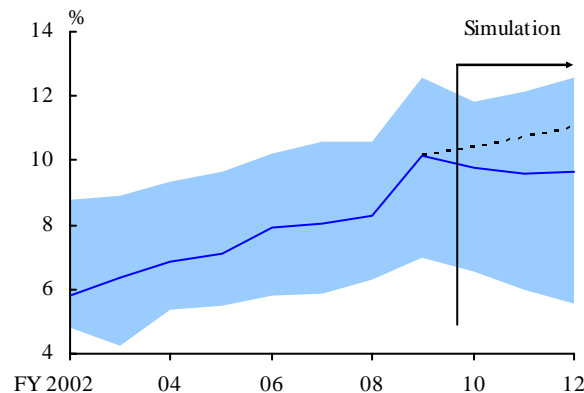
Note: 1. Ratios to Tier I capital (on an acquisition price basis).
Shaded area indicates 10-90th percentile range.



Note: 1. Distribution of banks by percentage change in stockholdings (on an acquisition price basis).

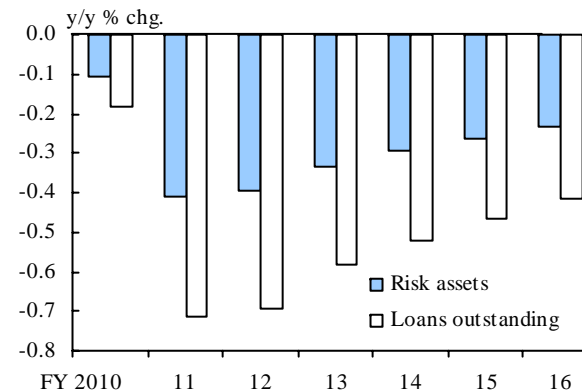
1. Partly because capital reinforcement has progressed through capital increases, the robustness of the capital base against macroeconomic shocks has been steadily enhanced.
 - Under the stress scenario, the estimated Tier I capital ratio would decline by 0.6%pts by end-FY2011 but could still maintain a level of 9%, which is substantially higher than that at end-FY2008. The overall distribution shows that the Tier I capital ratios of more than half the banks would exceed 8%.
2. Even though banks' capital bases as a whole would avoid being significantly impaired even under the stress scenario, there is a possibility that the Tier I capital ratios of banks with relatively weak profitability and a relatively weak capital base could remain at a low level in the future.
 - The tail of the Tier I capital ratio distribution would decline moderately, and at some banks the Tier I capital ratio would fall below 6%.
3. In the recovery process, in which banks would restore their capital ratios impaired under the stress scenario, loans outstanding could decline by 0.7% on a year-on-year basis in FY2011 and 2012, if a reduction in risk assets is made solely by a reduction in loans outstanding. Banks could perform the financial intermediation function to a lesser degree by reducing lending that would constrain real economic activity.

Chart 3-4-3: Tier I capital ratios^{1,2}



Notes: 1. Simulation results under the stress scenario. Shaded area indicates 10-90th percentile range measured by each bank's share of loans.
2. The dashed line indicates the result under the baseline scenario.

Chart 3-4-5: Pressure to reduce risk assets



Following the past average pattern, banks are assumed to accumulate capital through retained earnings and reduce risk assets, and restore the Tier I capital ratio to the level at the base point.