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Designing New Infrastructure for a New Lending Model

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* The opinions and views expressed in this article are those of the author and do not necessarily reflect the official view of the Bank of Japan or the Bank Examination and Surveillance Department.

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I Introduction

Japan's non-performing loan (NPL) problem was, previously, regarded as stemming from the formation and bursting of asset price bubbles. In recent years, however, the problem has been increasingly linked with structural adjustment pressure in the economy. This article analyzes the continuing large amount of NPLs at Japanese banks against the background of structural adjustment from the viewpoint of their lending model, i.e. lending rules and practices. The article also discusses the need for a new lending model, which urges earlier corporate restructuring or liquidation, especially when structural changes can weed out non-competitive firms. In order to promote this scenario, new provisioning rules reflecting the decrease in economic value/benefits of NPLs are desirable.

II NPL Problem and the Profitability of Loan Assets

What follows studies the traditional lending model from the perspective of credit risk/cost adjusted profitability and the economic value of loan assets.

Chart 1, derived from the Credit Risk Database (CRD), which collects the financial and credit data of 120,000 small and medium-sized firms from credit guarantee corporations, regional banks, and other banking institutions, suggests the profitability of loan portfolios. The horizontal axis shows borrower ratings by the author based on the expected rate of default. The financial conditions of firms rated between 'G' and 'J' roughly correspond to those of borrowers defined as "in need of attention," "in danger of bankruptcy," "de facto bankrupt," or "bankrupt" under the self-assessment framework set forth in the *Financial Inspection Manual* (Financial Services Agency). Firms rated as such account for about 18 percent of all borrowers. The vertical axis shows interest rates.

The "break-even rate" is the interest rate that covers the credit cost ratio, the expense ratio, and the funding cost[1] of bank loans. In this chart, the "break-even rate" shoots up for borrowers rated 'G' or worse because of the sizable credit cost ratio attaching to such borrowers. The "actual rate" remains roughly at the same level for borrowers regardless of

[1] The credit cost ratio is the expected annual loan-loss ratio for each rating. It is calculated by multiplying the bankruptcy rate and the proportion of loans uncollected at time of bankruptcy. The expense ratio and funding cost are substituted by the short-term prime lending rate. Interest rate risk arising from mismatching between investment and funding related to deposits and loans is abstracted.

credit rating, which means that the credit risk of each borrower is not reflected in the lending rate. Loans to borrowers classified as “in need of attention” do not pay because the “actual rate” curve lies below the “break-even rate.” These losses from unprofitable loans have reduced bank profits the past few years. Indeed, the weighed average of positive interest margins on loans to “normal” borrowers and negative interest margins on loans to “in need of attention” borrowers shows that lending operations, on the whole, hardly generate any profit.

One reason why unprofitable loans have accumulated is the traditional lending model of Japan’s banking industry where banks have supported firms with deteriorating business performance without taking any action such as liquidation or restructuring. The traditional lending model once stabilized borrower firms’ funding, gave them a long-term perspective, and contributed to the famous economic growth.

There were several reasons why the traditional model functioned well: (a) banks were financially strong enough to support firms in trouble, (b) in the economic growth period, a business recovery for ailing borrowers was foreseeable, and banks expected to collect loans, and (c) once ailing borrowers had recovered, banks could obtain wide margins under interest rate regulation.

This model, however, no longer works. Due to structural adjustment pressure, borrower firms easily migrate to a ‘G’ rating or worse. Under structural change, it is hard to identify firms which deserve to be supported by lending. Under such circumstances, clinging to the traditional lending model will only result in the accumulation of unprofitable loans and the impairment of bank profitability. Moreover, since financial liberalization squeezed lending margins on loans to sound borrowers, banks lost their economic rationale for supporting firms in trouble. Indeed, banks have lost their financial strength and can no longer support ailing firms without impairing their own creditworthiness.

To improve profitability and regain market confidence, banks should abandon the traditional lending model and put a brake on the accumulation of loans classified as “in need of attention” or worse. What is needed is a new model that quickly responds to changes in the business conditions of borrower firms.

The huge negative margin between “break-even rate” and “actual interest rate” in Chart 1 suggests that banks lend to firms whom they should not. This causes economic inefficiency in terms of resource allocation. Moreover, smooth restructuring or liquidation of firms is hampered, delaying the progress of current structural change toward an efficient economy. Some of these borrowers, however, could successfully restructure themselves

by concentrating on converting to a profitable business model. Banks should analyze the financial and business conditions of firms in trouble, tell them whether they should liquidate or restructure, and take appropriate action at an earlier stage before enterprise value declines.

A new lending model, whereby banks take early action against a deterioration in loan asset quality, may make corporate and debt restructuring measures more effective. Because it may also avoid viable firms from being unduly kicked out of the market, the decline in enterprise value and loss of employment opportunities could be alleviated. Under the traditional lending model, enterprise value was often at irreparable levels when firms considered filing for bankruptcy, making it difficult for banks to draw up effective reconstruction plans.

The introduction of a new lending model would not only benefit banks but also firms, including small and medium-sized ones. Once banks improved profitability and restored their credit intermediation function, small and medium-sized firms classified as “normal”, which account for about 80 percent of total, would enjoy easier access to bank credit and favorable terms and conditions in loan agreements. Some argue that further disposal of NPLs would harm small and medium-sized firms, but, to the contrary, the vast majority of them would benefit from the new lending model.

III Economic Value of NPLs and Their Profitability

In general, the price of a loan product is defined as the discounted present value of future cash flows generated from the loan (principal and interest payments minus costs) net of credit cost (expected loss). Therefore, if classified in the “in need of attention” category, the economic value of unprofitable lending is very likely to be below book value.

An accurate valuation of the diminishing economic benefit is an important first step toward reducing NPLs. To help ailing firms reconstruct or change their own business model through adequate and timely financial support, accurate measurement of loan value and its variability is indispensable. By evaluating the economic value of loans, banks can manage credit risk in a more sophisticated manner and strengthen their ability to assess the chances of business reconstruction.

Under current provisioning rules, loan-loss provisions do not cover the decrease in the economic value of loans resulting from the impaired creditworthiness of borrowers. As seen in the next section, such provisioning rules discourage banks from trying to deal with

the NPL problem at an early stage.

IV Current Provisioning Rules and Defects

Under current accounting rules, banks are not obliged to make provisions based on the discounted cash flow (DCF) method for loan assets of borrowers classified as "in need of attention". Many make loan-loss provisions based on the expected loss in the next one to three years in line with the *Financial Inspection Manual* of the Financial Services Agency. Generally, such provisioning is not sufficient to cover the decreased economic value of loans caused by an increase in credit cost.

As a result, banks do not behave rationally, for example, in their credit risk management, being mistakenly influenced by the desire to present good financial statements. In other words, the need for better accounting figures often distorts loan-loss provisioning in terms of economic rationale.

When a bank tries to reconstruct borrowers classified as "in need of attention", under current provisioning rules, it would see larger credit losses than its provisioning because total costs stemming from debt forgiveness and a debt-for-equity swap in a reconstruction plan to enable the borrower regain financial soundness would be equivalent to the decreased economic value of loans (Chart 2). As a result, banks would suffer additional financial losses. Additional losses also materialize in the sale of loan assets. Banks therefore tend to avoid the business reconstruction of their borrowers or loan sales if they themselves are not in good financial shape. The current provisioning rules discourage banks from managing a borrower's financial problems at an early stage because they do not adequately reflect the diminished economic value of loan assets.

If loan-loss provisioning reflected the economic value of NPLs, no additional financial cost would be required for business reconstruction or loan sales. Banks, free from accounting concern, would then take early rational action to dispose of NPLs.

The current provisioning rules also hamper market discipline. Since market participants cannot access enough information to assess the financial condition of banks, they become overly suspicious of the creditworthiness of banks and make the market unstable. Rational provisioning is crucial to win market confidence, especially for banks that depend greatly on fund raising in the market.

Some worry that DCF-based provisioning will amplify economic volatility (so-called

'procyclicality').[2] However, DCF-based provisioning would make bankers more risk conscious, enhance their risk management and is, therefore, expected to flatten cyclical lending patterns.

V New Trends in Loan-Loss Provisioning

Accounting rules should be reviewed unremittingly. To reflect financial innovation, accounting rules should be reviewed to enhance efficient financial intermediation. In most countries, banking supervisors, accountants, and other parties concerned are working vigorously to improve financial accounting standards. To cover the reduced economic value of loans brought about by a decline in the creditworthiness of borrowers, in some countries DCF-based provisioning is a standard practice. Progress in data collection and risk management has made a great contribution to this development. Banks can measure expected loan losses more accurately and, consequently, calculate DCF statistically.

In the United States, where provisioning based on DCF is common, financial measures are taken at an early stage of the bankruptcy process or workout to reconstruct or liquidate a business soon after loan quality deteriorates to an unprofitable level, that is, the loan does not generate enough return to cover the expected loss. Effective reconstruction measures are set out before enterprise value tumbles. In this way, social and economic costs, such as unemployment and business franchise value loss, are kept low.

While the credit costs attaching to the loan assets of US banks has been high (Chart 3), the chart also shows that US banks secure a sufficient interest margin to cover such costs. The important point is that loan assets generate returns sufficient to cover the risks involved. The credit cost ratio level does not matter. The same chart shows Japanese banks do not obtain sufficient interest income to cover their credit cost ratio, which suggests that their pricing is too favorable to borrowers and that banks continue to lend after borrowers' credit quality deteriorates and they become unable to pay sufficient interest to cover expected losses.

In discussions on accounting standards, how to measure collective impairment based on the present value of the expected future cash flows of loans is gaining attention all over the world. In this method, the diminished economic value of loans is assessed collectively

[2] See remarks given by Alan Greenspan, Chairman of the Board of the Governors of the Federal Reserve System, entitled *Cyclicality and Banking Regulation*, on May 10, 2002.

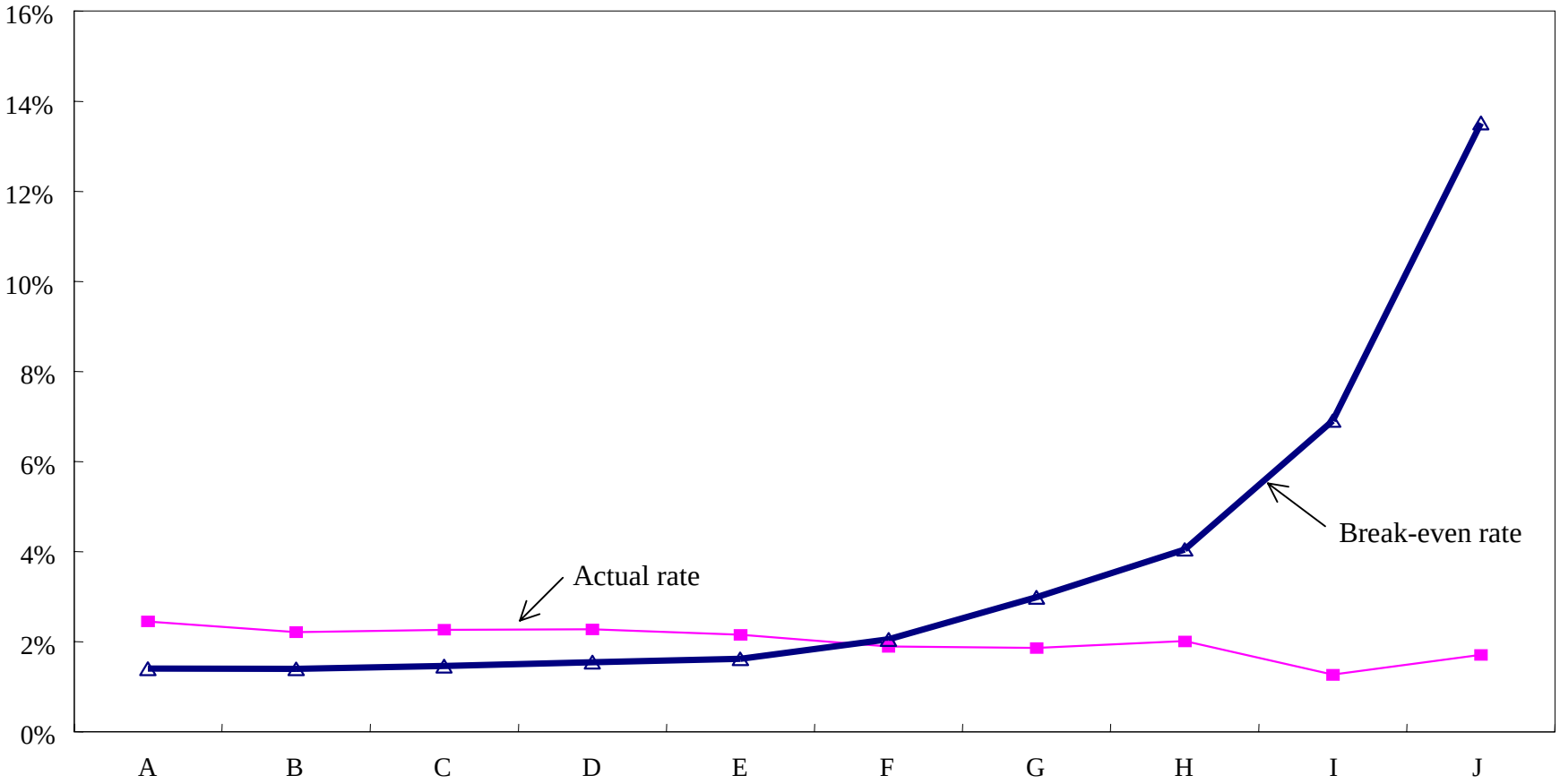
after being classified by borrower rating, type of industry, or other criteria. Recent developments in financial technology, especially credit risk management, make a statistical estimation of collective impairment possible, i.e. future cash flows and the term structure of default probability. The introduction of such collective measurement to Japanese banks should be considered because there are too many NPLs to estimate impairment individually.

VI Building an Infrastructure for the New Lending Model

It takes a long time to establish a set of financial rules and practices. Many components of the present system, such as laws, rules and regulations, accounting standards, tax system, lending practices, personnel management, and risk management, have evolved over the years. These institutional factors complemented each other to fortify the traditional lending model. Besides provisioning rules, there are rules and practices that hinder Japanese banks from acting promptly against a deterioration in loan quality. They include a lack of covenants in loan agreements; credit management premised on loan continuation, whereby a specialized workout section of a bank is not involved until the economic value of loan assets plunges; unclear loss-sharing rules following the resolution of NPLs, whereby the main bank bears most of the losses; lack of turnaround specialists; rigid requirements for the tax-exempt write-off of NPLs; undeveloped secondary markets for loan assets; and the conventional notion that banks should support borrower firms in accordance with the traditional lending model.

To promote the introduction of a new lending model and to thereby realize more efficient financial intermediation, a new set of infrastructure, including financial rules and practices, is required. Bankruptcy procedures are currently being improved to support corporate reconstruction at an early stage. Other rules and practices should also be reviewed. In particular, the introduction of new provisioning rules which correspond to the diminished economic value of loans would likely accelerate transformation to a new lending model.

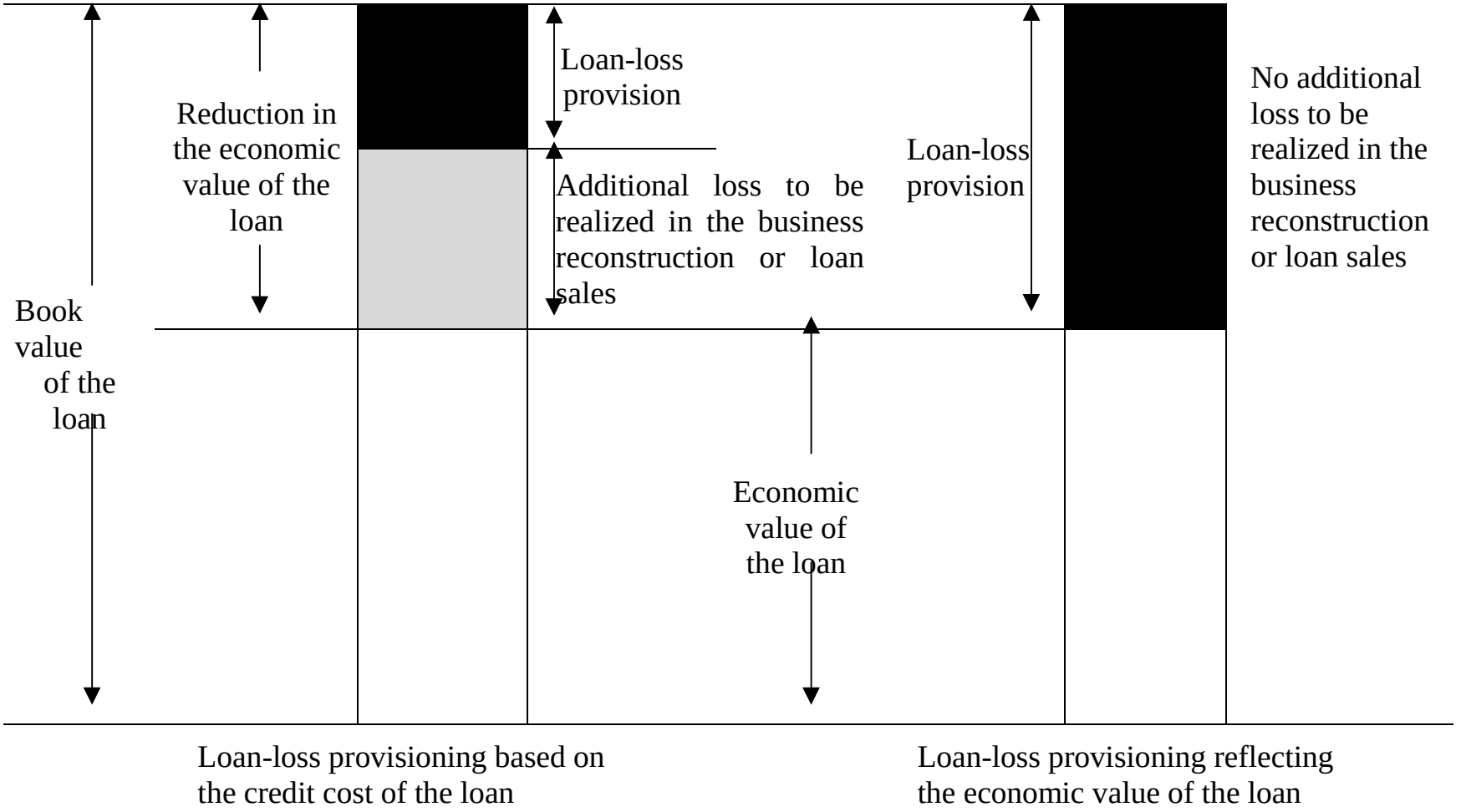
(Chart 1) Interest Rates on Bank Loans



* Actual rate: interest paid divided by total debt
* Break-even rate: aggregate of credit cost ratio and short-term prime rate of city banks (in calculating credit cost ratio, the proportion of loans uncollected at time of bankruptcy is set at 50%)

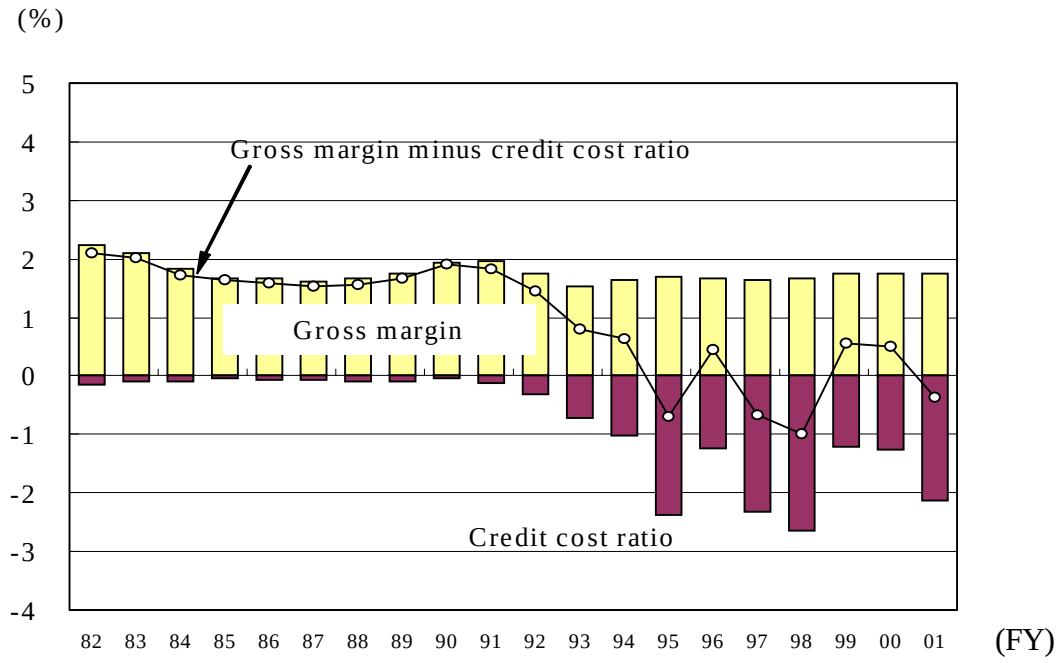
(Source: CRD)

(Chart 2) Additional Loss to be Realized in Business Reconstruction or Loan Sales



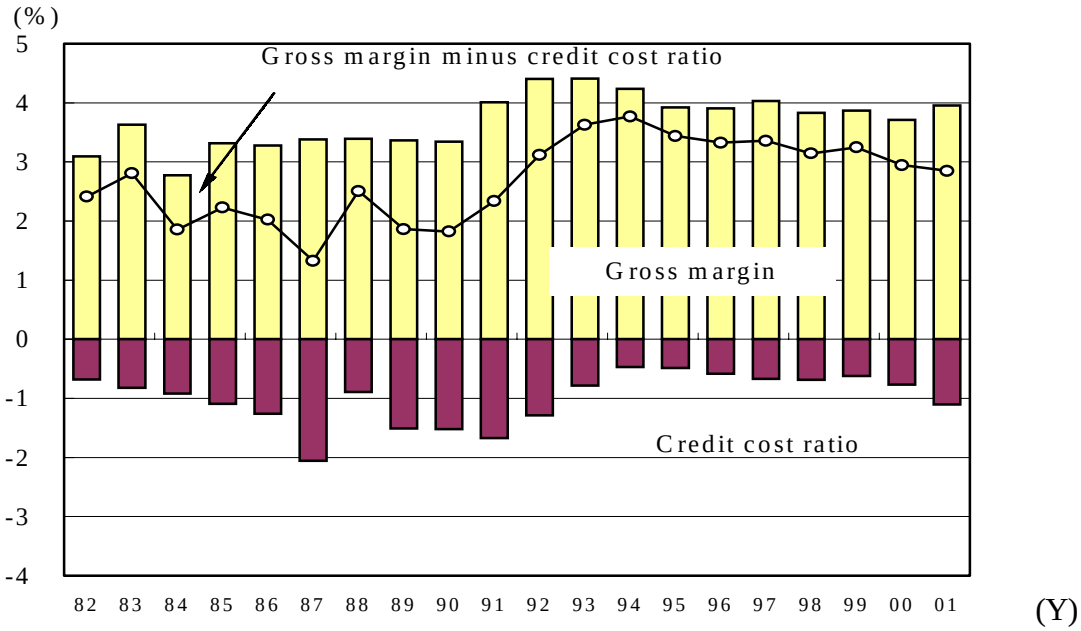
(Chart 3) Gross Margin and Credit Cost Ratio on Bank Loans

(1) Japanese banks



* Figures are the average of all Japanese banks.

(2) US banks



* Figures are the average of the member banks of FDIC.