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Bank Profits in Japan from the Perspective of ROE Analysis

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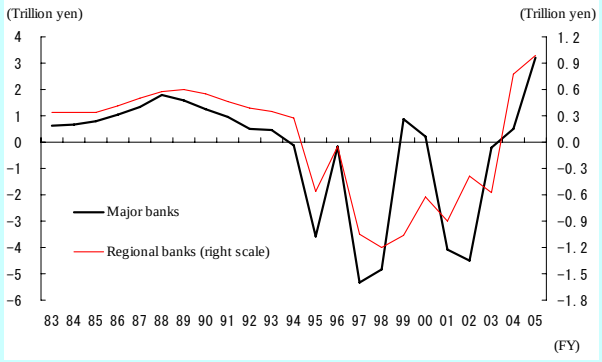
Bank profits in Japan have improved substantially in recent years. In fiscal 2004, the major banks recorded positive net income for the first time in four years. The regional banks marked positive net income for the first time in ten years. In particular, their profits increased substantially in fiscal 2005, with both the major banks and the regional banks posting record-high net income. It is the case, however, that temporary factors strongly contributed to the improved profits for fiscal 2005. One major temporary factor was a sharp reduction in credit costs arising from the reversal of the allowance for loan losses recorded in previous years.

In this paper we develop an adjusted ROE (hereafter, core ROE), a profit indicator that excludes factors behind fluctuations in credit costs and gains and losses on securities, to assess the outcomes of the recent efforts by banks to improve income from core businesses. Analysis results show that (1) core ROE for the major banks has improved, albeit to a limited degree, and (2) core ROE for the regional banks has remained consistently low relative to that for the major banks, with no notable improvement. If the profits of banks are to be improved, the banks must adopt more sophisticated approaches for managing credit risk and restrain the large increases in credit costs. We believe, meanwhile, that it is important to improve profit generating capability by reinforcing fee businesses and ensuring sufficient interest margins on lending.

1. Introduction

Bank revenues have substantially improved in recent years (Chart 1).[1] In fiscal 2004, the major banks recorded positive net income for the first time in four years. The regional banks marked positive net income for the first time in ten years. In particular, their profits increased substantially in fiscal 2005, with both the major banks and the regional banks posting record-high net income.

[Chart 1] Net Income of Banks



During this period, banks strove to improve profits from core businesses by streamlining management and reinforcing their new financial services. While bank performance in fiscal 2005 was certainly outstanding, much of the success could be attributed to temporary factors, such as a sharp reduction in credit costs reflecting the reversal of the allowances for loan losses.

To deal with these conditions in this study, we have developed a profit indicator (core ROE) that adjusts the factors responsible for large fluctuations (e.g., credit costs, gains/losses on securities, and corporate income tax). We use this profit indicator to analyze the degree of improvement of profits from core businesses achieved through the management efforts of banks.

Henceforth we give an overview of the changes in bank profits, elucidate the method used to determine core ROE, analyze the results so determined, and finally offer our insights.

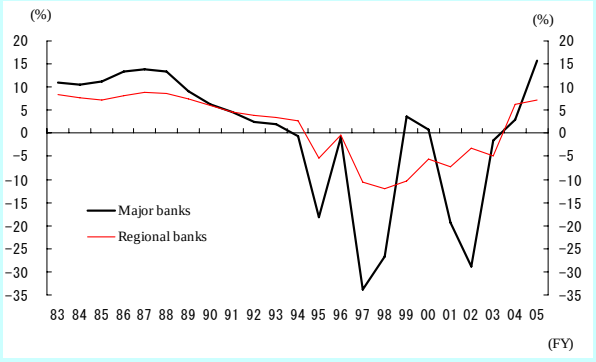
2. Bank Profits: An Overview

In our analysis of a rather long-term time series of data for the net income, we find that income has fluctuated sharply since the mid 1990s (Chart 1 above).[2] In fiscal 1997 and 1998, the major banks

operated at a huge negative net income of about ¥5 trillion. In the following years they managed to operate at a positive net income, but only through fiscal 2000. By fiscal 2001 and 2002 they were again operating at a huge negative net income. From fiscal 2003, their performances improved for three consecutive years. In fiscal 2005 they recorded their highest income (¥3.2 trillion), surpassing the earlier record high of ¥1.8 trillion in fiscal 1988. The regional banks, meanwhile, recorded a negative net income for nine consecutive years from fiscal 1995 to fiscal 2003. In fiscal 2005, however, they recorded net income nearing ¥1 trillion. Their incomes for that year rose to a record high following the previous record in fiscal 2004.

ROEs have moved almost in line with net income (Chart 2).[3] The ROE of the major banks for fiscal 2005 was about 16%, a level almost on par with the levels of the major US and European banks. Meanwhile, the ROE for the regional banks improved substantially, rising above 7%.

[Chart 2] ROE of Banks

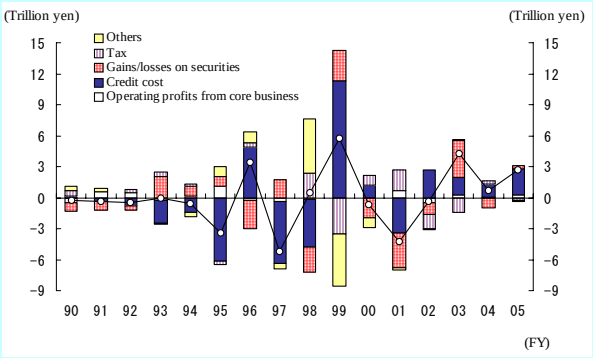


To analyze the volatile factors behind the net incomes, we decomposed the differences from the previous year and determined the degree to which individual decomposed elements contributed to the fluctuation. Through this approach, we concluded that credit costs and gains/losses on securities contributed to the fluctuation more than the other factors (Chart 3).

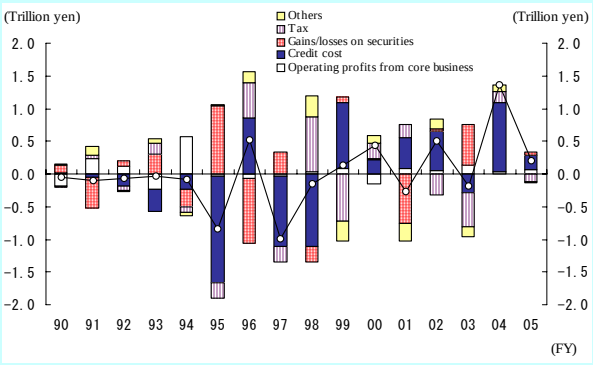
Next, we performed a more in-depth analysis of these two factors. Our results indicated that the credit cost ratio gradually rose in the 1990s, peaked in fiscal 1998, and subsequently hovered at a high plateau because of the continuous disposal of large non-performing loans. For the past few years, however, the credit cost ratio has been sharply declining amidst the accelerated disposal of non-performing loans (Chart 4). On the basis of a broad analysis, we find that the moves of the net incomes or ROEs of banks are guided by changes in the credit cost ratio. On the other hand, gains/losses on securities have swung dramatically either into a positive or negative leg for each year (Chart 5). In the 1990s, banks recorded gains on the sales of stocks in order to ensure sufficient resources for the disposal of non-performing loans. With the implementation of mark-to-market accounting in 2000, however, the banks were subsequently forced to write off unrealized losses, centering on unrealized losses on stockholdings, for several years.

[Chart 3] Contributions to Changes in Net Income from the Previous Year

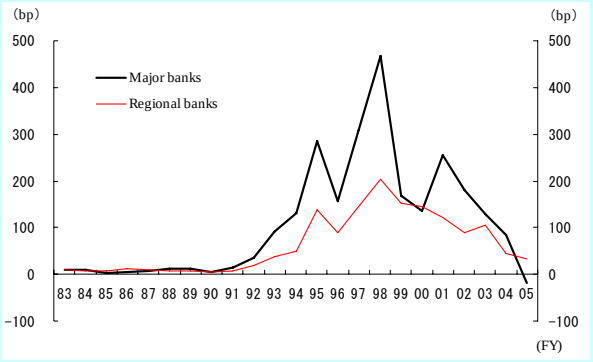
(Major Banks)



(Regional Banks)

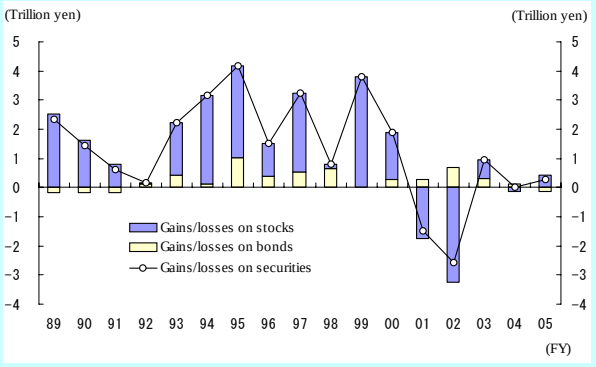


[Chart 4] Credit Cost Ratio of Banks

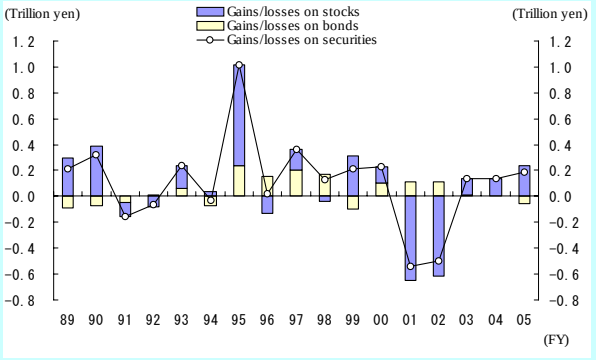


[Chart 5] Gains/Losses on Securities

(Major Banks)



(Regional Banks)



3. Core ROE

In this section we explain the method used to determine core ROE for banks, then verify the extent to which core profitability of banks improved from fiscal 2003 to fiscal 2005.

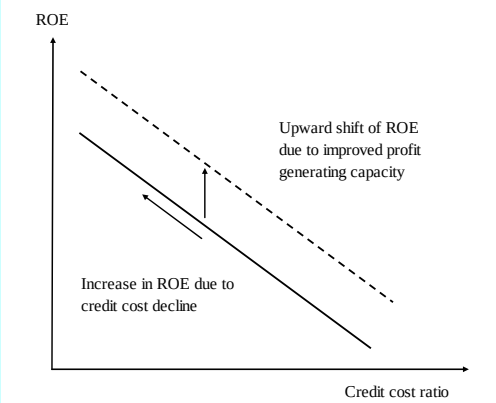
(1) Method for determining core ROE

The objective of core ROE is to accurately grasp changes in trends with respect to bank profits by adjusting temporary volatile factors. In practice, core ROE is determined by taking three steps: (1) the net income is adjusted by credit costs, gains and losses on securities, and corporate income tax (adjusted net income), (2) stockholders' equity is adjusted by net unrealized gains/losses on securities (adjusted stockholders' equity), and (3) the adjusted net income is divided by the adjusted stockholders' equity (See the "Box" for the details for calculating core ROE).

This core ROE can be characterized by the following two aspects. First, the ROE is adjusted by gains/losses on securities as well as corporate income tax, factors which are quite susceptible to external circumstances. This adjustment restrains the fluctuations of gains and losses and stockholders' equity. Second, multiple ROEs are calculated for various individual credit costs (derived by multiplying total outstanding loans by the credit cost ratio) on individual designated points. This means that core ROE can be determined in a series in response to changes in the credit cost ratio, and a line representing the relationship between core ROE and credit cost ratio can be developed.

This core ROE helps us understand the profit improvements attained through improvements in profit-generating capabilities associated with, for example, the streamlining of management, enhanced interest income on lending, and reinforced fee businesses, separately from those attained through external economic improvements, including reductions in credit costs. With respect to the former, the line representing the relationship between the core ROE and credit cost ratio will shift upwards, while the improvements via a reduction in credit cost are shown as a movement to the left on the same line (Chart 6). We should note, however, that efforts to improve the profit-generating capability with restraints on the credit cost (including more sophisticated and detailed credit risk management) will lead to a credit cost ratio restrained to a lower level, while the relationship between core ROE and credit cost ratio will stay on the same line.[4]

[Chart 6] Lifting Factor of ROE (Concept Chart)



We can identify two benefits from the use of core ROE. Both benefits relate to its characteristics noted above.

First, as an actual ROE is strongly influenced by the fluctuation of the credit cost ratio for each fiscal year, the effect of factors other than the credit cost (e.g., net interest income, non-interest income, and curtailment of general and administrative expenses) on ROE is difficult to identify. With the use of core ROE, however, ROEs with identical credit cost ratios can be compared on a time series basis. In other words, we can understand the degree of profit improvement after adjusting the effects of the year-to-year changes in the credit cost ratio on ROE.

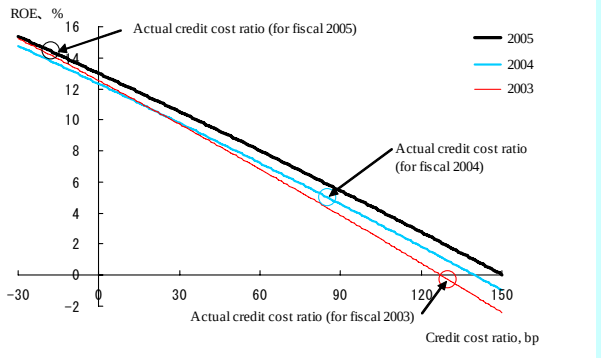
Next, since the relationship between the credit cost ratio and ROEs can be clarified, we can derive a pro forma ROE of banks on the basis of scenarios developed for prospective credit cost ratios. For example, we can prepare a trial calculation for likely changes of ROEs based on assumed credit cost ratios during periods of economic expansion or recession.

(2) Results of trial calculation of core ROE

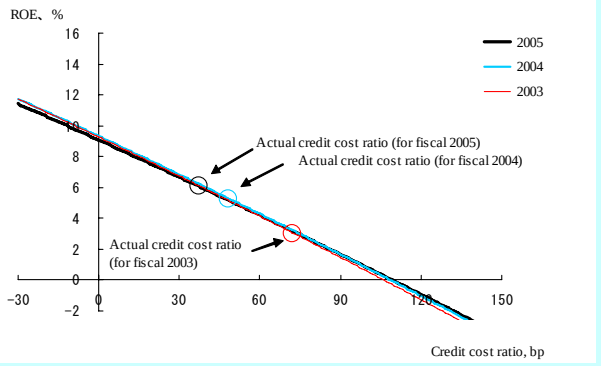
We determined core ROEs for the major banks and the regional banks by applying the method noted above for three fiscal years from fiscal 2003 (the last fiscal year with negative net income recorded) to 2005 (Chart 7).[5,6]

[Chart 7] Trial Calculation of Core ROE

(Major Banks)



(Regional Banks)



We start by comparing the levels of core ROEs of the major banks and the regional banks. Looking to the data on the vertical axis, where the credit cost ratio becomes nil, we find a core ROE of 13.0% for the major banks and a core ROE of 9.1% for the regional banks in fiscal 2005. The credit cost ratio on the horizontal axis, where the ROE becomes nil for the same fiscal year, is 150 bps for the major banks and 109 bps for the regional banks. As this shows, there is a large discrepancy in the core ROE between the major banks and the regional banks.

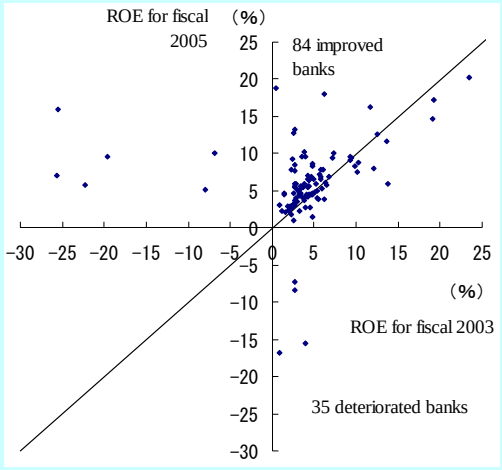
When we compare the improvements between fiscal 2003 and 2005, we find that the major banks achieved limited improvements of 1 to 2%, while the regional banks achieved almost no meaningful improvements.[7]

Next, we briefly summarize improvements of the ROE of individual banks. Chart 8 plots the ROEs on the vertical axis for fiscal 2005 and the horizontal axis for fiscal 2003. The ROEs of the banks plotted above the 45-degree line improved for the period, while the ROEs of those below the line deteriorated.

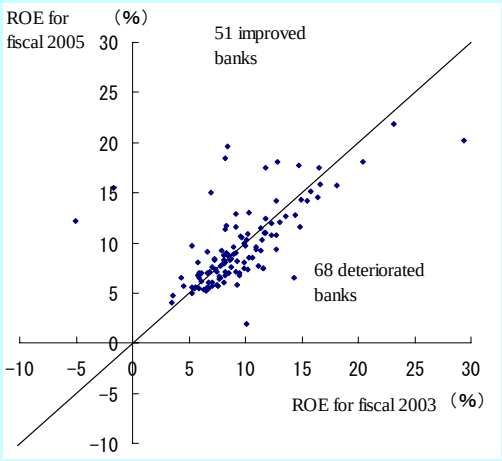
Looking at the actual ROEs in the upper chart, we find that they improved for 84 banks, or 70% of all banks. When we look at the core ROEs, however, we find that they improved for only 51 banks, or slightly more than 40%. This means that many banks nominally improved their ROEs without improving their core profitability derived by adjusting credit cost ratios, etc. With respect to core ROEs as a whole, many are plotted around the 45-degree line, while only a few show outstanding improvements (those plotted far above the line).

[Chart 8] ROEs for Individual Banks

(Actual ROE)



(Core ROE)



(Notes)
1. Six banks are not shown in the chart for the actual ROE because their actual ROEs are either too small or large for the scope of the chart.
2. Core ROE has been calculated under the assumption of a credit cost ratio of 0 bp.

[Box] Method to Calculate Core ROE

This box describes the process used to determine pro forma core ROE after adjusting effects of the fluctuation of credit costs and gains/losses on securities. In practice, core ROE is determined by taking three steps: (1) the net income is adjusted by credit costs, gains/losses on securities, and corporate income tax (adjusted net income); (2) stockholders' equity is adjusted by gains/losses on securities (adjusted stockholders' equity); and (3) the adjusted net income is divided by the adjusted stockholders' equity. The example below shows practical calculation results.

Income items	
Operating profits from core business	200
Gains/losses on securities	△40
Credit cost（△）	60
Pretax profits	100
Corporate income tax（△）	50
Net income	50

B/S items	
Average of monthly loan outstanding	10,000
Opening stockholders' equity	1,000
Net unrealized gains/losses on securities	30
Closing stockholders' equity	1,100
Net unrealized gains/losses on securities	100

Step 1: Adjustment of net income

(1) Deduct gains/losses on securities and credit costs from the pretax profits.
100 – (–40) + 60 =200

(2) Derive any corresponding credit costs by changing the assumed credit cost ratio and multiplying by the average of monthly loan outstanding. Deduct this value from (1) above to determine the adjusted pretax profits.
Credit cost ratio 0bp: 200 – 0.00 × 10,000 = 200
100bp: 200 – 0.01 × 10,000 = 100

(3) Derive the adjusted net income by deducting the amount under a standard corporate income tax rate (40%).
Credit cost ratio 0bp: 200 × (1 – 0.4) = 120
100bp: 100 × (1 – 0.4) = 60

Step 2: Adjustment of stockholders' equity

(4) Apply the same approach for the adjustment of the net income, and use the basis derived by deducting net unrealized gains/losses on securities from the closing balance of the previous year (treating it as the opening balance of the current term) and the closing balance of the current term.
Opening balance: 1,000 – 30 = 970
Closing balance: 1,100 – 100 = 1,000

(5) With respect to the closing stockholders' equity, any adjusted net income derived in (3) for the individual credit cost ratios will be added after the actual net income is deducted.
Credit cost ratio 0bp: 1,000 – 50 + 120 = 1,070
100bp: 1,000 – 50 + 60 = 1,010

(6) Next, determine the adjusted stockholders' equity by averaging the opening balance and closing balance.
Credit cost ratio 0bp: (970 + 1,070)/2 = 1,020
100bp: (970 + 1,010)/2 = 990

Step 3: Calculation of core ROE

(7) Determine the adjusted ROE corresponding to the relevant credit cost ratio by dividing the adjusted net income determined in (3) by the adjusted stockholders' equity in (6).
Credit cost ratio 0bp: 120/1,020 × 100 = 11.8%
100bp: 60/990 ×100 = 6.1%

In summary, the following formula can be applied for the above.

Adjusted net income = (pretax profits – gains/losses on securities + credit costs – assumed credit cost ratio × average of monthly loan outstanding) × (1 – corporate income tax rate)

Adjusted stockholders' equity = { (opening stockholders' equity – opening balances of net unrealized gains/losses on securities) + (closing stockholders' equity – closing balances of net unrealized gains/losses on securities – net income + adjusted net income) }/2

Core ROE = adjusted net income/adjusted stockholders' equity

(3) Contributors to changes in core ROEs

In this section we present a more in-depth analysis of the improvements of the ROEs from fiscal 2003 to fiscal 2005. As noted above, the core ROE determined under the same credit cost ratio can be applied to three fiscal years in order to eliminate the effect of the credit cost ratio. Further, we assume three scenarios for the credit cost ratio: 20 bps, 50 bps, and 100 bps. The trial results are as follows (Chart 9).[8,9]

[Chart 9] Components of Contributors to Changes in Core ROE

(%)

	Major banks			Regional banks		
Assumed credit cost ratio	20bp	50bp	100bp	20bp	50bp	100bp
1. Net income	1.7	1.9	2.2	0.4	0.4	0.3
(Major components)						
Net interest income	-0.8	-0.8	-0.8	-0.2	-0.2	-0.2
Total outstanding loans	-0.6	-0.6	-0.6	0.3	0.3	0.3
Interest margin on lending	-1.3	-1.3	-1.3	-1.2	-1.2	-1.2
Total outstanding securities	0.4	0.4	0.4	0.3	0.3	0.3
Interest margin on securities	1.4	1.4	1.4	0.2	0.2	0.2
Non-interest income	2.2	2.2	2.2	0.6	0.6	0.6
Fees and commissions	1.7	1.7	1.8	0.6	0.6	0.7
General and administrative expenses	0.2	0.2	0.3	0.1	0.1	0.1
Calculated credit cost	0.1	0.2	0.5	-0.0	-0.1	-0.1
2. Stockholders' equity	-1.0	-0.8	-0.4	-0.5	-0.4	-0.1
3. ROE improvements (1 + 2)	0.7	1.1	1.7	-0.1	0.0	0.2
(ROE for fiscal 2003)	10.7	7.8	2.8	7.6	5.0	0.6
(ROE for fiscal 2005)	11.4	8.9	4.6	7.5	5.0	0.8

(Note)
The above is based on the decomposition of ROE improvements from fiscal 2003 to 2005.

First, the net income of the major banks has pushed up the core ROE by about 2%. Yet the stockholders' equity has increased at the same time, hence the improvement of core ROE has remained within a range from 0.7 to 1.7%. The core ROE of the regional banks has meanwhile edged upwards through improvements in net income, but similarly, the progress has been set off by increases in stockholders' equity. Thus, the regional banks have not enjoyed any improvement of core ROE.

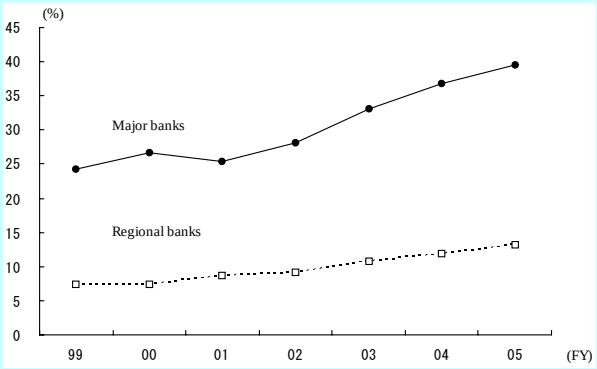
Next we analyze improvement factors for the net income, a value used as a numerator for the calculation of core ROE for individual profit-generating sources. The net interest income-related factor has contributed in a negative direction for both the major and regional banks, while the non-interest income-related factor and expense-related factor have both contributed in a positive direction. As for net interest income, the increase in the net interest income from securities compensates for the decrease in the net interest income from loans. Fees and commissions (fee business related income), meanwhile, have significantly contributed to non-interest income.

However, the following differences can be identified between the major banks and the regional banks. As the total outstanding loans of the major banks have been decreasing, net interest income from loans has largely declined. The major banks have been increasing securities investments amidst this decline, but the effects are not sufficient to recoup the decline of net interest income. At the same time, however, non-interest income has grown substantially with support from the reinforced fee businesses, resulting in an increase in the net income overall.

On the other hand, the interest margin on lending for the regional banks has been narrowing while the total outstanding loans have been increasing. These movements have attenuated the decline of net interest income from loans relative to that of the major banks. Yet the non-interest income of the regional banks is growing far more slowly than that of the major banks, hence the growth of the net income is also slower.

On the basis of the above analysis, we can conclude that the main factor behind the discrepancy in the improvement of profits from core businesses between the major banks and the regional banks relates to the capability to generate non-interest income such as fees and commissions. In practice, the ratio of non-interest income to the sum of net interest income and non-interest income at the major banks has primarily been higher than that of the regional banks, and the gap between them has been widening annually (Chart 10). When we look at fee income, we see that the increases in fee income from the sales of mutual funds and insurance policies have been large for both the major banks and the regional banks, while the fees for the origination of syndicated loans and provision of commitment lines have improved for the major banks.[10]

[Chart 10] Ratio of Non-Interest Income to the Sum of Net Interest Income and Non-Interest Income



4. Concluding Remarks

This *Review* develops core ROE, a newly prepared profit indicator that excludes volatile factors such as credit cost and gains/losses on securities, to analyze

the improvement of profits from core businesses attained through the management efforts of banks. As a result, we have concluded that (1) the major banks have improved their core ROE albeit to a limited extent, and that (2) the core ROE of the regional banks continues to hover at a low plateau compared with that of the major banks, with no meaningful improvement.

To enhance bank profits, the banks will need to adopt more sophisticated methods for managing credit risk and to restrain the large increases of credit costs.[11] It will also be important to improve core profitability by ensuring sufficient interest margin on lending and reinforcing fee businesses.

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[1] In this *Review*, we refer only to the domestically licensed banks in Japan.

[2] The number of banks is determined as of March 31, 2006. The analysis covers 12 major banks, (including Saitama Resona Bank) and 111 regional banks (64 banks affiliated with the Regional Banks Association of Japan and 47 banks affiliated with the Second Association of Regional Banks as members).

[3] When there are both common stockholders and preferred stockholders, the ROE is commonly determined by deducting the stockholders' equity attributed to the preferred stockholders. However, based on the assumption that in many cases the preferred stock is converted into common stock, we determine the ROE in this paper without making any distinction between common and preferred stock.

[4] In calculating core ROE by changing the credit cost ratio on a series basis, we assume that the interest margin on lending remained unchanged. Therefore, it should be noted that we do not consider any rise in the interest margin in line with the increase of the credit cost ratio.

[5] In order to make stricter timing comparisons for the regional banks in this section, Ashikaga Bank and three banks which merged from fiscal 2003 to 2005 are excluded. Accordingly, we are left with 107 banks to include in the analysis.

[6] The actual ROEs for the major banks for the period from fiscal 2003 to 2005 are minus 1.5%, 2.8%, and 15.7%, respectively, while the core ROEs corresponding to the actual credit cost ratios for the same period are minus 0.3%, 5.0%, and 14.4%. In the analysis of the regional banks, the actual ROEs are 1.7%, 5.1%, and 5.9%, respectively, while the core ROEs corresponding to actual credit cost ratios for the same period are 3.1%, 5.3%, and 6.1%. Any discrepancies between the actual ROEs and core ROEs under an identical credit cost ratio are attributed to the adjustments of items other than credit costs.

[7] As we see in Chart 7, the steepness of the line for the major banks diminishes as time passes by. This is because a higher credit cost ratio coincides with a larger rate of credit cost decline due to the decline in outstanding loans, and the net income improves substantially as a result.

[8] The net interest income does not match the total of the values for each component of net interest income. There are two reasons for this: first, some of net interest income does not derive from loan business or securities holdings; second, the interest margins for domestic operations have been used for foreign loans as well.

[9] It should be noted that while income items other than credit costs have specified values, the impact of each contributor to changes in ROE vary according to changes in the assumed credit cost ratio. This can be attributed to the changes in the net income for the benchmark fiscal year (fiscal 2003) due to the changes in the assumed credit cost ratio.

[10] For details on the trends with fees and commissions, see pages 28 to 31 of the *Financial System Report* published by the Bank of Japan in July 2006.

[11] We should consider the appropriateness of the level of ROE as a profitability indicator in light of operations and risks pertinent to individual banks. We refrain from discussing this, however, as an in-depth analysis of this issue is beyond the scope of this paper.

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