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Banks Recapitalization Policies in Japan
and their Impact on the Market
—A study of the impact of emergency measures in the latter half of FY 1997 on stock prices

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Abstract

In the severe financial environment surrounding Japanese financial institutions since autumn 1997, the following measures to boost banks' capital were implemented from December 1997 through March 1998 in Japan: (1) Banks were given the option to choose the cost method in the valuation of their equity portfolios. (2) Reevaluation of bank property assets at current market values was introduced. (3) Public funds were injected into the banking system. This article examines whether or not the announcements or reports of these measures have had any impact on stock prices. Particularly, we would like to focus on the stock prices of Japanese banks which have adopted the BIS capital adequacy ratios. We find: (1) The announcement of the introduction of the cost method in the valuation of equity portfolios had a limited effect on the stock prices of the banking industry. This result is in sharp contrast to the stock price responses to a similar accounting rule change designed to avoid losses in the case of valuation at the "lower of cost or market" method in the past. (2) The announcement that property assets would be reevaluated at current market values had a relatively strong impact on stock prices, particularly on those of banks with lots of property assets. (3) The deliberation over capital injection into the financial system by the Diet also had a strong impact on stock prices, particularly on those of weaker banks. These findings indicate: (1) Stock investors evaluate the mark-to-market accounting style measure, which discloses the true figures of banks, more than before. (2) The aim of capital injection by the government might be interpreted by investors in general as an attempt to favor weak banks rather than to bolster the capital base of strong banks.

Key words: BIS capital adequacy ratio, "lower of cost or market method", cost method, capital injection

JEL classification: G18, G21, G28, M41

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1. Introduction

Since December 1997, the Japanese government has taken some of the pressure off banks with measures to prevent the stock market from triggering a crisis in the financial sector when there is a sharp fall in the market. The move has been motivated by fears that some leading banks could fail to meet the 8 per cent BIS capital adequacy ratio[1]. The concern is that such falls in capital are prompting banks to cut lending, thereby raising the possibility of bankruptcies.

Roughly speaking, the government announced two types of measures to boost banks' capital during the period from December 1997 through March 1998[2]. One was to revise accounting rules to make it easier for banks to meet the BIS capital ratio and the other was the injection of public money into the banking system. The revision of accounting rules allowed banks to reevaluate their property assets at current market values and use the cost method for stock valuation. The use of cost method accounting for stocks eased the pain of banks suffering from sharp drop of stock prices, and the reevaluation of property assets allowed banks to count unrealized gains of property assets as Tier II capital. The injection of public money was aimed at strengthening banks' capital base by purchasing banks' preferred stocks or subordinated bonds with public funds.

All of these measures were designed to help banks boost their capital; however, the channel of the impact on the banks' capital base varied from measure to measure.

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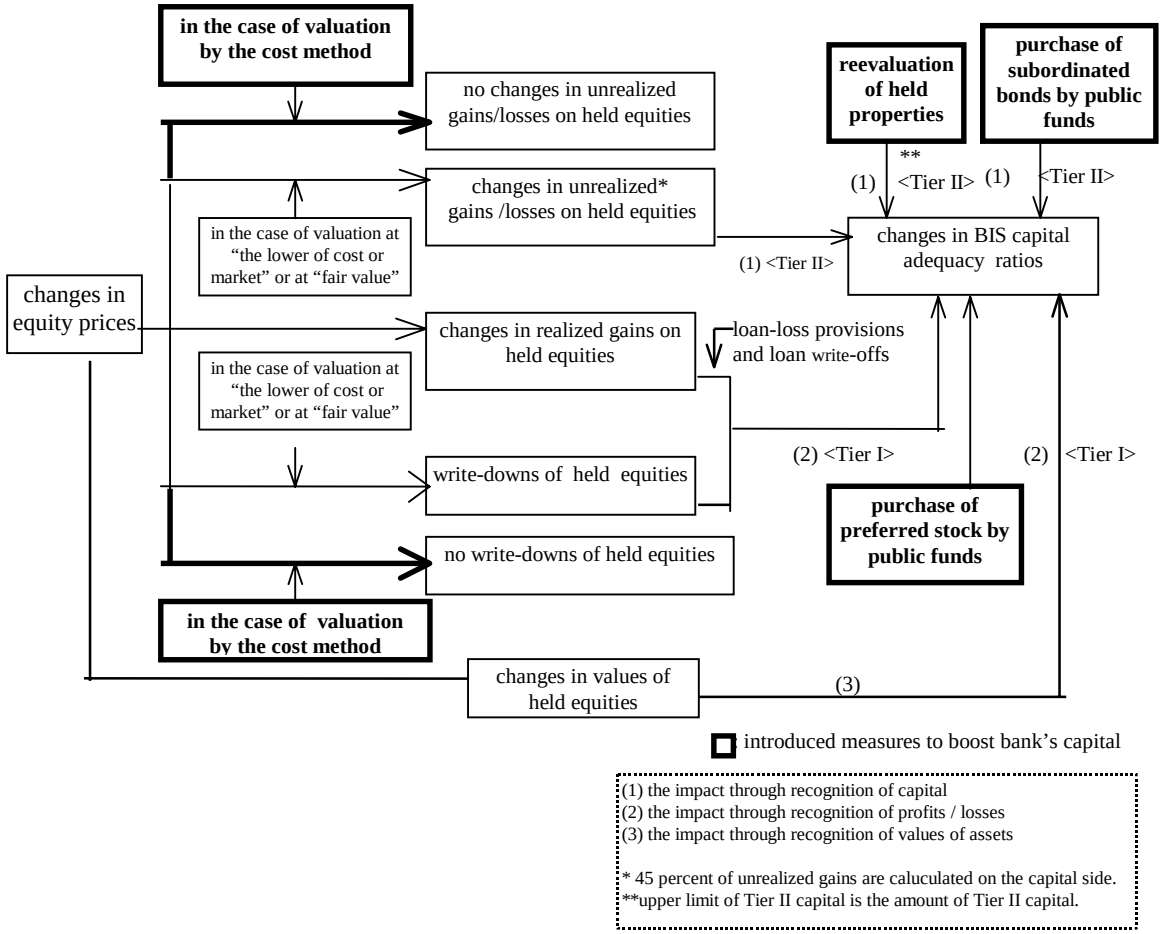
[1] In particular, "prompt corrective action", which was introduced in 1998 based on capital adequacy ratios, might have intensified the perceived regulatory risk by investors (see footnote 3).

[2] This paper only deals with banks' recapitalization policies from December 1997 through March 1998 and not with the new measures to stabilize the financial system, which have been put into effect since October 1998.

Diagram 1 shows how these measures affected BIS capital adequacy ratios. As Diagram 1 indicates, the reevaluation gains on banks' property assets were included in Tier II capital. On the other hand, the revision of the valuation method for held equities enlarged Tier I capital because banks, when choosing the cost method in the valuation of stock, did not need to write down held equities. With regard to these revisions of the valuation method for stock, the treatment of unrealized gains and losses was also important. When the MOF initially announced the measures (in December 1997), there was a view that banks would have to include unrealized gains and losses in Tier II capital when choosing the cost method for stock valuation. For banks with high unrealized losses, this revision of the valuation method would have offset some of the positive effects on Tier I capital to some degree. However, later (i.e. in the last ten days of February 1998) the details resulted in excluding neither unrealized gains nor unrealized losses from the capital base. As for capital injection, the effect varied depending on whether the government purchased preferred stocks or subordinated bonds. If the government purchased preferred stock, Tier I capital was enlarged, and if subordinated bonds, Tier II capital was enlarged. Therefore, the effectiveness of all these measures depended on the relative size of Tier I capital, Tier II capital, and the size of unrealized gains on held securities.

Diagram 1. The impact of introduced measures on BIS capital adequacy ratios.



This article examines whether or not the announcements or reports of these measures had any impact on stock prices. Particularly, we would like to focus on the stock prices of Japanese banks which have adopted the BIS capital adequacy ratios[3]. Our objective is to determine whether or not the announcements or reports of these measures actually fostered positive expectations among investors and had a positive effect on stock prices

[3] If BIS capital ratios of banks decline, investors might recognize increases in the possibility of regulatory capital violation of such banks, which might bring about declines of these banks' stock prices. In 1998, particularly, Japan introduced " prompt corrective action", which may have intensified the perceived regulatory risk associated with BIS capital requirements by equity investors. The " prompt corrective action" clause enabled authorities to take administrative action, including issuing decisive orders for improvement of management, based on objective criteria like capital adequacy ratios. Incidentally, in the beginning, this new measure was scheduled to be applied to all Japanese banks, however, at the time of the announcement of emergency measures to enhance financial facilities (December 24th 1997), a period of grace of one year allowed the government to suspend issue of supervisory orders given to domestic banks. At any rate, internationally active banks, which have adopted the BIS capital adequacy standard, have been subject to the " prompt corrective action" clause since 1998 as scheduled.

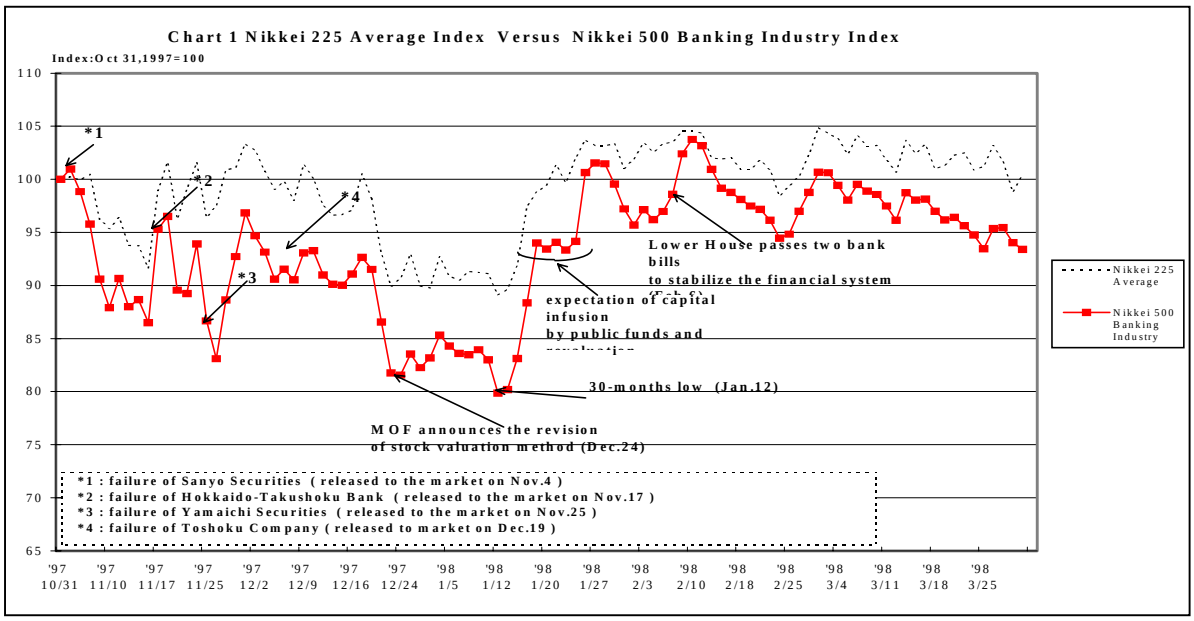
by calculating daily returns of stock prices around the announcement days. We also focus on how these impacts varied from bank to bank, taking into account some determining factors such as the amount of property assets, non-performing loans and unrealized gains/losses on held securities.

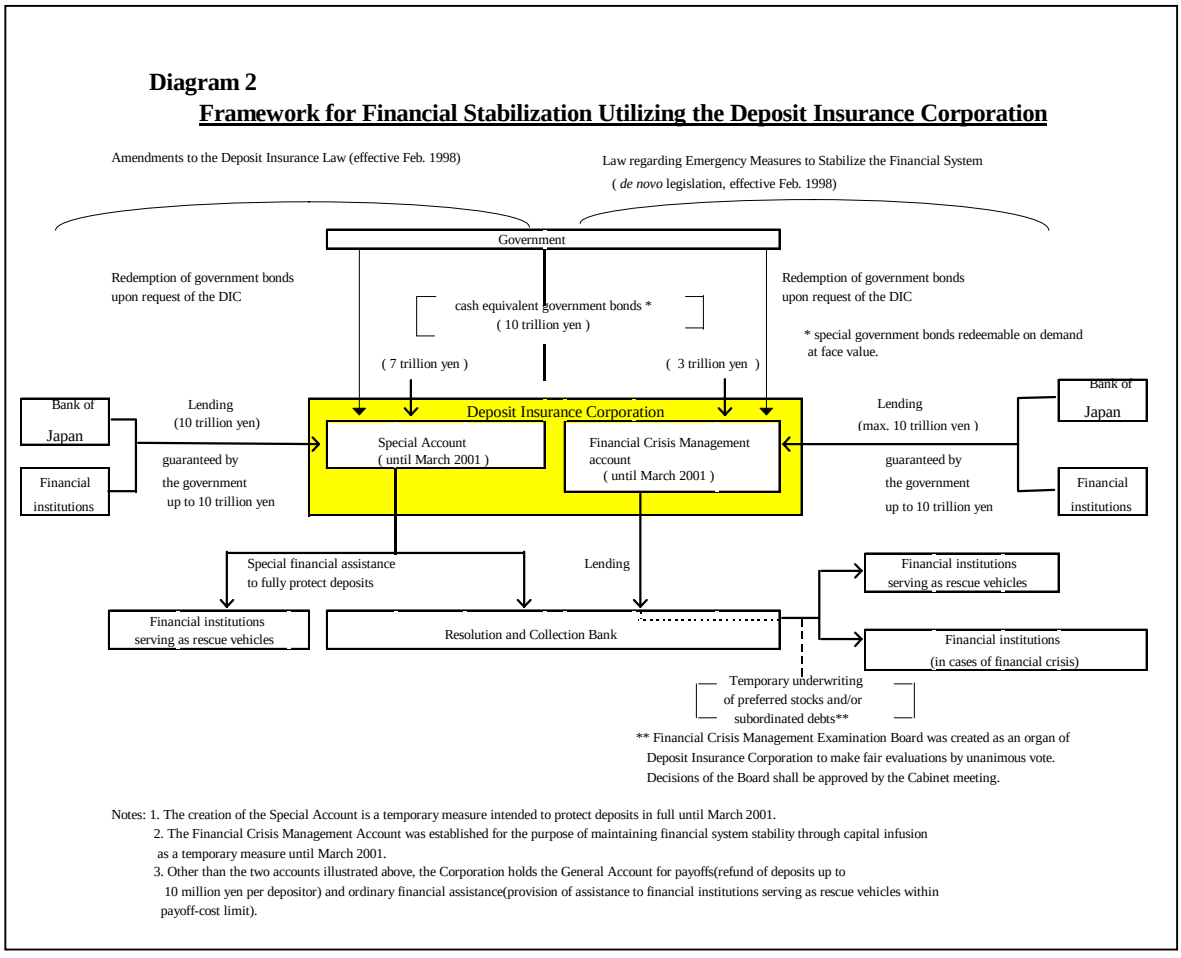
Our results can be summarized as follows: (1) The announcement of the introduction of the cost method in the valuation of equity portfolios had little effect on the stock prices of banks. This result contrasts with the stock price responses to a similar accounting rule change designed to avoid losses in the case of valuation at the "lower of cost or market" method in 1988. (2) The announcement of the reevaluation of property assets at current market values had a relatively strong impact on stock prices, particularly on those of banks with lots of property assets. (3) The deliberation over capital injection into the financial system also had a strong impact on stock prices, particularly on those of weaker banks. These findings indicate that: (1) Stock investors evaluate the mark-to-market accounting style measure which discloses the true figures of banks more than before[4]. (2) The aim of capital injection by the government was interpreted by investors in general as an attempt to favor weak banks rather than to bolster the capital base of strong banks.

The remainder of this paper is organized as follows: Section 2 presents an overview of stock price changes from autumn 1997 to the end of March 1998. Section 3

[4] Theoretically, mark-to-market accounting and timely disclosure of the financial conditions of corporations are considered to help the market work efficiently. If investors think they will be able to transact stocks more efficiently in the future using mark-to-market information, such as the current market values of property assets firms hold, then they might be highly interested in the introduction of such mark-to-market information.

describes the data and methodology used. Section 4 presents the results, and Section 5 draws together the conclusions and implications.





2. Overview of stock price changes

Firstly, we present an overview of stock price changes from autumn 1997 to the end of March 1998. As Chart 1 shows, in November 1997 a series of financial institution failures pushed down stock prices in the banking industry more than the Nikkei 225 Average Index. In December 1997 plans for stabilizing financial systems came under debate, but stock prices continued to drop. Even after the Ministry of Finance (MOF) announced emergency measures aimed at boosting banks' capital (December 24th 1997), this downward trend continued (despite a slight swing in early January). Also, this period was characterized by a widening of the gap between the Nikkei 225 Average Index and the Banking Industry Index.

After hitting a 30 month low on January 12th 1998, the trend changed. In January, the press reported that the government would introduce the reevaluation of property assets at current market values. Also, two key bills[5] were presented to the Diet that would use 30,000 bn yen of public funds to support the financial sector, including up to 13,000 bn yen to purchase banks' preferred stocks and subordinated bonds (Diagram 2 shows the framework for financial stabilization). In response to this display of the government's willingness to stabilize the financial system, some major banks responded by indicating that they would accept public money by issuing preferred stock or subordinated bonds purchased by the government. As a result, in January, expectations of new emergency measures for stabilizing the financial system rose, which brought about the upward trend

[5] These two bills refer to (a) the "law to amend to the deposit insurance law" and (b) the " emergency measures law for financial stabilization", which were passed by the Diet in February 1998. After that, in view of the worsening financial environment, new legislation to stabilize the financial system was passed and the above law (b) was abolished in October 1998.

in stock prices and also narrowed the gap between the Nikkei 225 Average Index and the Banking Industry Index.

The Nikkei 225 Average Index reached a high of 17,205.09 on February 10th. This was triggered by the improved market optimism affected by the Lower House's passage of bills to stabilize the financial system (February 6th). After that, the trend of stock prices, particularly that of the banking industry's stock prices, turned downward again. In the latter half of February and during March, details of the above-mentioned measures were decided and announced. However, these announcements seem to have had little positive impact on stock prices, particularly on those of the banks[6].

In Sections 3 and 4, to identify the impact of the announcements or reports of the measures, we calculate the daily returns of stock prices around the announcement days and compare these impacts with some determining factors such as the amount of property assets, non-performing loans and unrealized gains/losses on held securities,.

3. Data and Methodology

The sample consists of 49 banks' daily stock prices from December 1997 to March 1998 (the end of FY 1997). These banks had adopted BIS capital standard until FY 1997. Four banks in the sample were forced to cease international business in FY 1997. However, they were expected to continue international business and these

[6] Differences in the effects of banks' recapitalization policies on stock prices between the period before and after early February might be due to the extent to which the probabilities of the policies' implementation were factored into stock prices. Before early February these policies were "unexpected" measures which had a " surprise" impact on stock prices, whereas after the Lower House's passage of bills to stabilize the financial system there remained only the details of implementation of the policies, so that they were already " expected" measures.

expectations were factored into their stock prices until some stage in FY 1997. Thus it was considered to be appropriate to include them in our study.

Firstly, to identify the impact of the announcements or reports of the measures, we calculate daily close-close (logarithmic) returns of both the Nikkei 225 Average Index and the Banking Industry Index around the announcement days.

Secondly, to identify how investors see the impact of accounting rule changes, we divide banks both according to the amount of gains on held securities and also by the type of bank.

Thirdly, to identify how investors interpret the aim of capital injection by the government, we examine the relationship between the amount of non-performing loans the banks hold and the returns on these banks' stock prices.

4. Results

Chart 2 shows returns of the Nikkei 225 Average Index and the Banking Industry Index. In Chart 2 there were days (January 16th, 19th, 26th and February 9th) when the returns of the Banking Industry Index increased significantly. These increases in returns are considered to be responses to the announcement of the reevaluation plan for property assets (the Liberal Democratic Party, the ruling party, released this plan on January 14th)[7] and the deliberation over capital injection into the financial system (two key bills for financial stabilization were presented to the Diet on January 19th and the Lower House passed these bills on February 6th)[8]. The increase in returns of the

[7] January 15th is a national holiday and the return increased on the next business day (January 16th) after the release of the reevaluation plan.

[8] February 9th was the next day of business after February 6th .

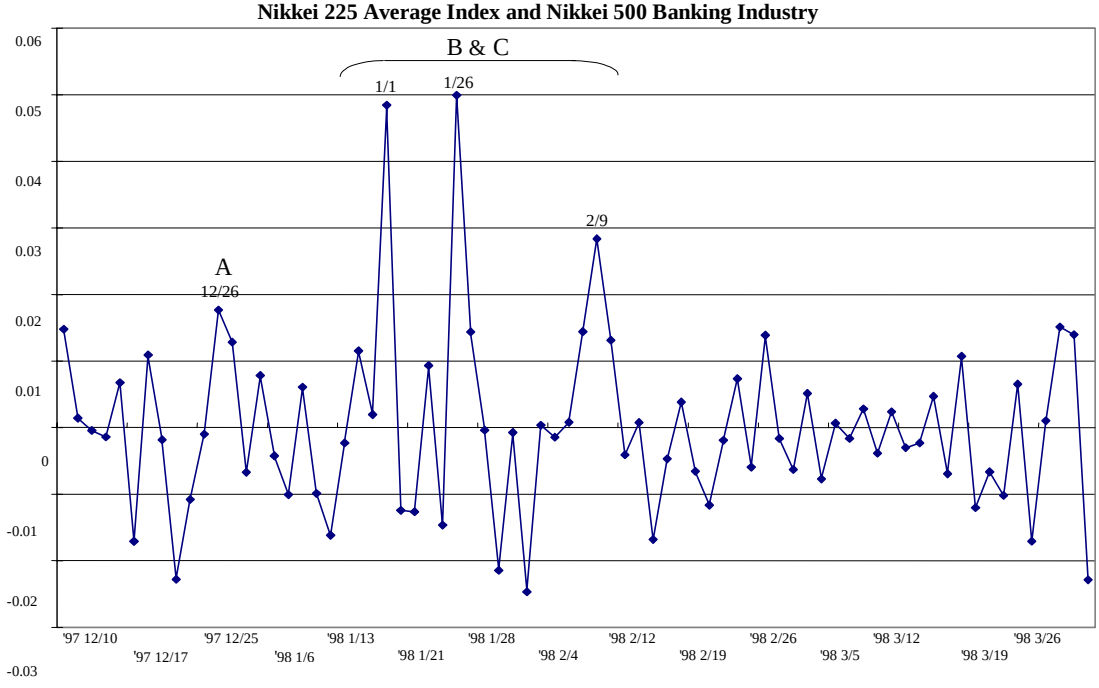
With regard to the high return on January 26th, we cannot make a definite explanation as to which event

Banking Industry Index on December 25th and 30th 1997, after the announcement of the revision of the valuation method for stock (December 24th 1997), was also large but not as significant as the increases in the Index after the announcement of the reevaluation plan for property assets and capital injection into the financial system.

This section is divided into three subsections. In each subsection we examine the impact of announcements or reports of the following measures respectively:

- Subsection A; revision of the valuation method for stock
- Subsection B; reevaluation of property assets
- Subsection C; capital injection into the financial system

Chart 2 Differentials between Two Returns. Comparing those of the Nikkei 225 Average Index and Nikkei 500 Banking Industry



caused that high return. Presumably, it might have been partly due to hopes of the new government

A. Revision of the Valuation Method for Stock

Firstly, we compare the impact of the announcement of the revision of the valuation method in December 1997 with that of a similar announcement in the past. They are as follows:

At the end of 1987, banks suffered from huge unrealized losses on held equities after the crash of the New York stock market on October 19th 1987. According to accounting rules, banks were expected to register huge losses on the day of settlement (the end of March). Of particular concern was the treatment of expected losses incurred on " special-purpose trust[9] " accounts. Banks were forced to adopt the " lower of cost or market" valuation method in stock portfolios of their " special-purpose trust" accounts as well as those of their own accounts. Under such bearish conditions, this would bring about a huge write-down of stock portfolios. In order to avoid these expected losses on banks' portfolios, the MOF announced the following measures on January 5th 1988.

(1) Banks would be allowed to transfer stock portfolios of their "special-purpose trust" accounts into their own accounts without realizing losses.

——At that time, investment in "special-purpose trust " accounts was booming, these accounts had a so-called "separable book value" advantage in accounting

stimulus package.

[9] Special-purpose trust" accounts are a form of the trust accounts offered by trust banks. These accounts are characterized by the fact that the client, i.e. the depositor, has specific control over the investment of the funds. The returns on " special-purpose trust" accounts depend on the actual performance of the investment that is made after deduction of the trustee fee, which is the income of the trust bank. The trust bank bears no responsibility for guaranteeing either the principal or rate of return above a certain amount, and thus the entire risk is shouldered by the client.

rules. Specifically, stock portfolios of banks' "special- purpose trust" accounts could be valued separately from those of their own accounts.

That is, even if they had stock portfolios with low prices in their own accounts and newly bought stocks with higher prices in their "special-purpose trust" accounts, book values of their own accounts remained unchanged. Therefore, they did not need to realize gains in their own accounts, which enabled them to save taxes[10]. On one hand, banks continued to take advantage of the special tax merits of "special- purpose trust" accounts and, thanks to the new measures taken by MOF, they were also able to avoid losses in stock portfolios of "special-purpose trust" accounts. Therefore, many criticized this measure as simple "accounting gimmickry".

(2) In principle, banks would have to continue to adopt the " lower of cost or market" method in the stock portfolios of their " special-purpose trust" accounts as well as those of their own accounts. However, for particularly troubled banks, the valuation method of " special-purpose trust" accounts would be determined on a case- by- case basis in consultation with the MOF.

As Charts 3 and 4 show, the announcement in December 1997 had a limited impact on stock prices, as compared with the effect of the announcement in 1988. Concretely, after the announcement from the MOF (on January 5th 1988), the stock price tendencies

[10] In December 1980 " special-purpose trust" accounts were permitted this special tax concession. As opposed to this treatment, the general practice, when new quantities of a given security that is already held in a portfolio are bought, is to calculate the end-of-period valuation of such stocks or bonds as an average of the original price and the new market price. If the new market price is higher than the original price, then the book value at the end-of-period will be higher than that of last year's end-of-

obviously changed and daily returns of both the Nikkei 225 Average and the Banking Industry Index increased dramatically on January 6th. The impact of the announcement on the stock prices of the banking industry seems to have been particularly significant. On the other hand, the announcement from the MOF in December 1997 did not change the tendency of stock prices and the increase in daily returns of stock prices around the announcement day was not significant.

period, which results in an increase in profit, and therefore also in tax payments.

Chart 3 Nikkei 225 Average from October 1987 to March 1988

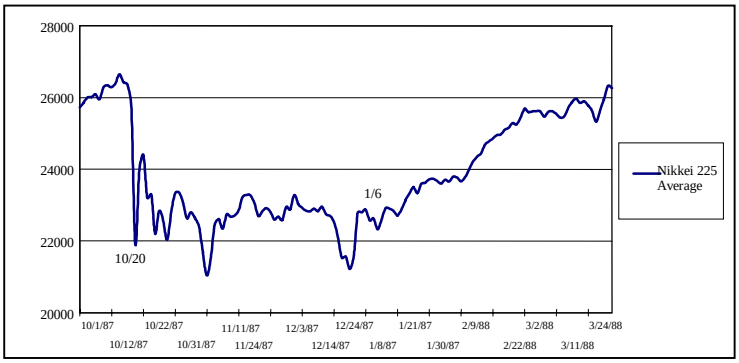
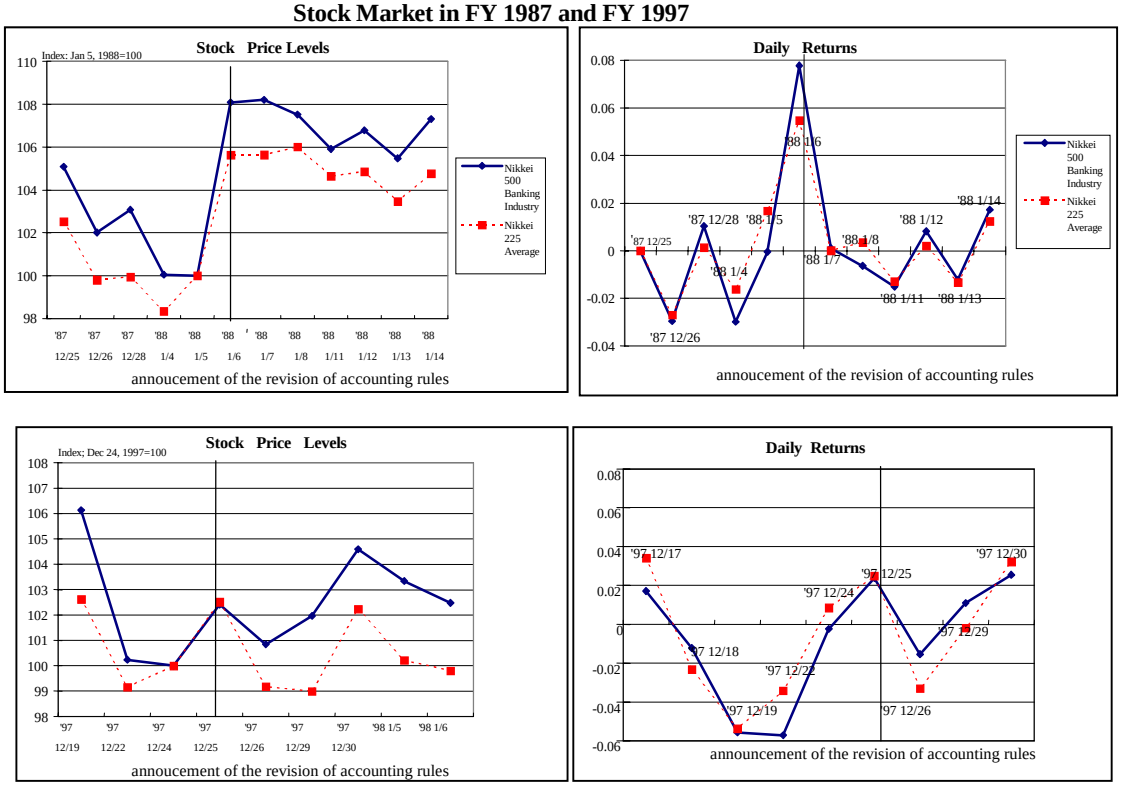


Chart 4 The Impact of the Announcement of the Revision of Accounting Rules on Stock Market in FY 1987 and FY 1997



We next examine the relationship between the returns on banks' stock prices and the unrealized gains/losses on banks' held securities by dividing the 49 banks in our sample into two groups according to the ratio of the securities' unrealized gains/losses to capital. We calculate this ratio based on figures in the semi-annual and annual statements[11] of FY 1997 and draw the line between the two groups at 0.2. There are 22

[11] Investors are considered to infer figures of unrealized gains/losses on banks' held securities in the

banks under the 0.2 level, including all banks which registered losses on held securities in annual statements of FY 1997.

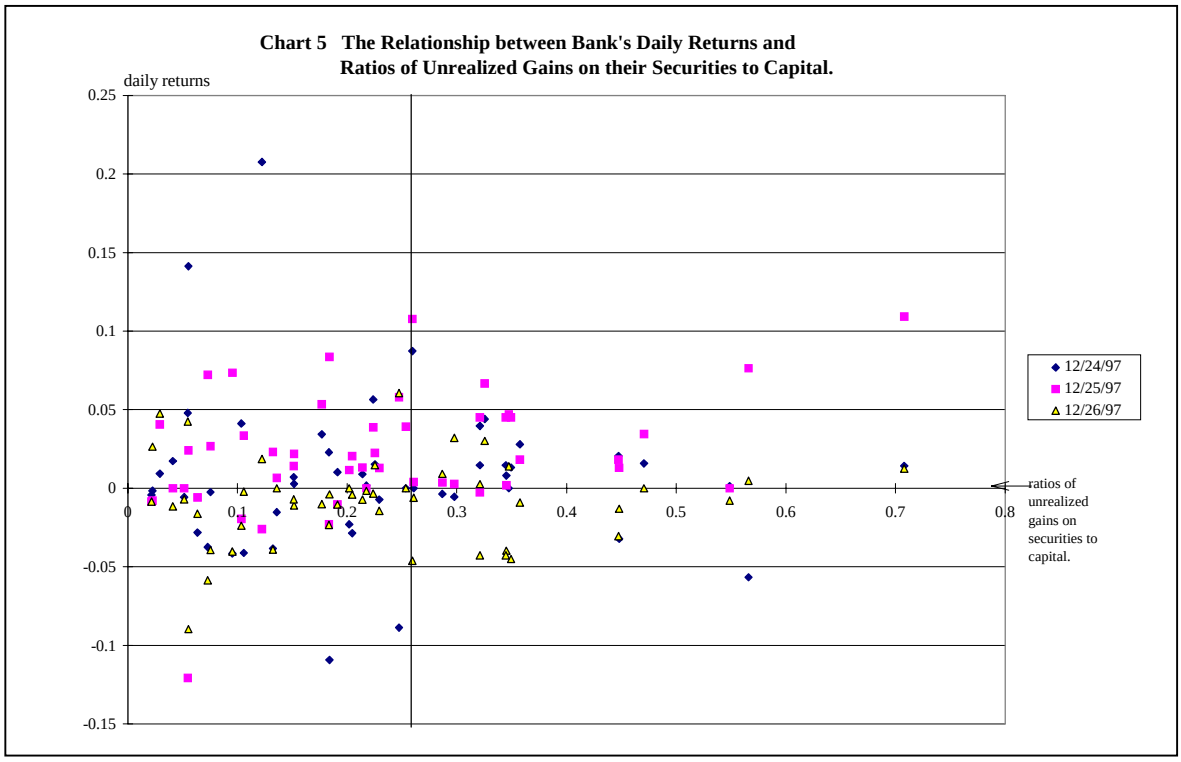


Chart 5 shows the relationship between banks' daily returns and ratios of their securities' unrealized gains/losses to capital. Judging from Chart 5, between the two groups there seems to be no significant difference in the average level of these returns on and after the announcement day, although we can see more variation in returns in the under 0.2 group than in the above 0.2 group. Table 1 also indicates the following: A test of paired-difference (t-statistics) indicates that there is little empirical evidence that the announcement from the MOF had a stronger impact on banks with lower unrealized gains/ losses on held securities. In contrast, the ratios of two variances (F-statistics) indicate significantly more variation in returns in the under 0.2 group.

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annual statement to some extent, by judging from figures in the semi-annual statement, movements of interest rates and the stock price (*Nikkei 225 Average*) and other information sources such as rating agencies.

TABLE 1

Comparison between More Unrealized Gains Group and Less Unrealized Gains Group

	Dec 19 ' 97	Dec 22 ' 97	Dec 24 ' 97	Dec 25 ' 97	Dec 26 ' 97	Dec 29 ' 97
t-statistics	- 1.41	- 1.84	0.61	1.77	- 0.80	0.63
F-statistics	1.90	3.19 *	7.82 *	1.33	1.22	1.16

* : 0.5% level significant

TABLE 2

Comparison between the "Lower of Cost or Market" Valuation Group and the Cost Method Valuation Group

	Dec 19 ' 97	Dec 22 ' 97	Dec 24 ' 97	Dec 25 ' 97	Dec 26 ' 97	Dec 29 ' 97
t-statistics	- 3.69 *	- 3.28 *	0.84	0.74	0.24	1.49
F-statistics	1.58	3.48 *	9.88 *	4.42 *	3.34 *	2.01

* : 0.5% level significant

Thirdly, we examine the relationship between banks' stock price returns and the accounting rules the banks adopt. Similar to the above method, we divide the 49 banks into two groups: the cost method group and the " lower of cost or market" method group. When the plan to revise the valuation method for stock was announced, investors of course could not know which banks would adopt the cost method vs. the "lower of cost or market" method. However, generally speaking, banks whose securities have large unrealized gains correspond to the " lower of cost or market" method group, because these banks had less incentive to change their accounting practices to follow the cost method. Some banks whose securities had large unrealized gains even feared that this change in accounting rules would result in a loss of public confidence. In fact, of the 27 banks in the above 0.2 group (ratio of securities' unrealized gains/losses to capital), only four banks adopted the cost method, whereas

among the 22 banks in the under 0.2 (ratio of securities unrealized gains/losses to capital), 15 banks adopted cost method accounting.

Table 2 shows the results of paired-difference (t-statistics) tests and the ratios of variance (F-statistics) tests. In this table a test of paired-difference (t-statistics) indicates there is little empirical evidence that the announcement from the MOF had a stronger impact on banks that were to adopt the cost method. The ratios of two variances (F-statistics) test indicates more variation in the returns of banks that were to adopt cost method accounting after the announcement on December 24th 1997.

These results can be interpreted as follows:

(1) The revision of the valuation method for stock did not seem to have much impact on stock prices. Revisions of accounting rules for annual statements solve no fundamental problems and, in this sense, these measures have the characteristics of somewhat "cosmetic" measures. These measures have a weaker impact on stock prices than before and this result indicates that, in the Japanese stock market, investors have come to see the true conditions of the market more clearly.

(2) Seemingly, banks with less unrealized gains on held securities seem to take advantage of these measures. However, theoretically, other factors such as the size of Tier I capital, Tier II capital, and the size of unrealized losses are linked to the effects of these measures. In particular, during December 1997, when the MOF initially announced the measures, the details including treatment of unrealized gains and losses of Tier II capital had not been decided. Therefore investors did not necessarily regard this measure as

favorable to banks with less unrealized gains or losses on held securities[12], which was shown in the said result (see Table 1). More variation of returns in less unrealized gains or losses of held securities seems to indicate that there are differences in the interpretation of the new measures in the market.

(3) Investors did not regard this measure as favorable to those banks which were most likely to adopt the cost method of valuation, either. In addition, more variation in returns among the cost method group also indicates that the introduction of the cost method was not necessarily highly evaluated by investors.

Theoretically, the cost method has the effect of smoothing gains/losses as opposed to the " lower of cost or market" method or the " fair value" method, because this method reduces the volatility caused by market price changes.

However, investors did not seem to evaluate this smoothing effect of the cost method positively. They only seemed to focus on the fragile financial conditions of those banks which were most likely to adopt the cost method, which caused more variation in returns among the cost method group. In a sense, the cost method had not only little positive impact on bank stock prices, but also might even have had an adverse effect on them.

B. Reevaluation of Property Assets

Chart 6 shows the daily returns of both the Nikkei 225 Average and the Banking Industry Index (from January 12th to January 22nd). Both returns increased remarkably after the Liberal Democratic Party, the ruling party, released the plan for reevaluation

[12] For example, in the beginning, there was the view that banks would have to include unrealized gains and losses in Tier II capital when choosing the cost method for stock. According to this view, in the case of the banks with many unrealized losses, this revision of valuation method was considered to offset the positive effect through of Tier I capital to some degree.

of property assets on January 14th.

In order to identify the relationship between unrealized gains on banks' property assets and returns on banks' stock prices, we divide the 49 banks into city banks and non-city banks. At the time when the plan of reevaluation of property assets was announced, investors could not know precisely which banks would be favored by this measure because the unrealized gains of held property assets were not released to the public. However, it was well-known that city banks had huge unrealized gains of held property assets compared with non-city banks, because city banks by far outnumbered non-city banks in terms of the number of branches[13]. Therefore, the classification into city banks and non-city banks could be a good proxy[14] for classification by the amount of unrealized gains on held property assets.

[13] In addition, there are many city banks which acquired property assets at an early stage before World War II, which is also a contributing factor in bringing about a large amount of unrealized gains from their held property assets, whereas among non-city banks there are a fairly large amount of regional banks which were newly established after the World War II.

[14] In fact, among Japan's internationally active banks which implemented the reevaluation of property assets, the average amount of unrealized gains on property assets for the eight city banks, (339 bn yen), was about ten times as large as those of the 24 non-city banks, (39 bn yen).

Chart 6 The impact of the Announcement of the Reevaluation of Property Assets on the Stock Market

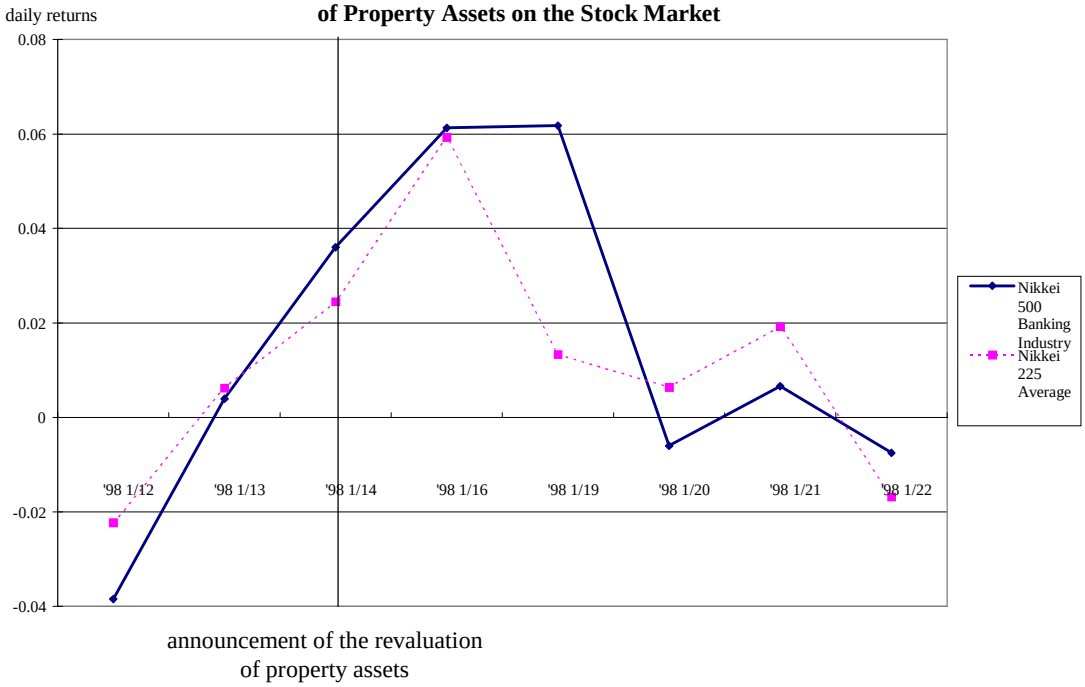

TABLE 3

Comparison between City Banks and Non-City Banks

	Jan 13 ' 98	Jan 14 ' 98	Jan 16 ' 98	Jan 19 ' 98	Jan 20 ' 98	Jan 21 '98
t-statistics	**- 0.37**	**6.00 ***	**3.81 ***	**3.21 ***	**-0.41**	**- 1.89**
F-statistics	**1.99**	**0.30**	**1.49**	**0.77**	**2.57**	**0.34**

* : 0.5% level significant

Table 3 shows the results of paired difference (t-statistics) tests and ratios of variances (F-statistics) tests between the two groups. The test of paired-difference (t-statistics) indicates that the release of this measure had a significantly stronger impact on city banks than on non-city banks during the three days (January 14th, 16th and 19th) after the plan for the reevaluation of property assets was released.

These results can be summarized as follows: (1) The reevaluation of property assets seems to have had a relatively strong impact on stock prices. (2) Investors could clearly recognize the aim of this measure and which banks were favored by it. These results are in sharp contrast to the effect of the revision of the valuation method for stock mentioned in Section 4.A. This comparison is interpreted as follows:

(1) The introduction of the cost method for stock might have the effect of hiding the true figures of banks, whereas the reevaluation of property assets at current market values discloses them. In other words, the former measure is considered to be against the trend toward mark-to-market accounting, whereas the latter encourages it[15], which would explain the different responses in the stock market[16].

(2) As opposed to holding stock, the amount of held property assets is highly correlated with the type of bank, regardless of banks' portfolio management. Therefore, the effect of the reevaluation of property assets is more clearly recognized by investors.

[15] Strictly speaking, the 1997 reevaluation of property assets was not a complete shift to mark-to-market accounting, because the law concerned had an ad hoc characteristic. This reevaluation would be conducted only within the specified duration and there were no provisions for treatment of unrealized losses on property assets in the case of falling prices.

[16] Of course, the investors' positive response to the reevaluation of property assets could not be explained only by its mark-to-market accounting style. We cannot deny the political and temporary aspect of this measure, which was aimed chiefly at making it easier for banks to meet the BIS capital ratio. Investors

C. Capital Injection into the Financial System

The purpose of capital injection into the financial system in the latter half of FY 1997 was announced by the government as follows: The purpose of the purchase of preferred stocks or subordinated bonds is solely to maintain the credit order, not to reconstruct financial institutions which issue preferred stocks/subordinated bonds[17]. In other words, the aim of this measure was to bolster the capital base of strong banks, not to reward badly run banks. In fact, in order to ensure that the purchase of preferred stocks / subordinated bonds was fair and restricted to meeting the stated purpose, an examining board[18] was established.

However, there was an interpretation among the public that these government funds might also be used to bolster the capital of banks with bad loans. Some even commented that this measure might help prolong the life of weak banks rather than letting them fail.

To identify how investors interpreted the aim of capital injection by the government, subsection C deals with the responses of stock prices to the deliberation on capital injection into the financial system (two key bills for financial stabilization were presented to the Diet on January 19th and the Lower House passed these bills on February 6th). Chart 7 shows daily returns of both the Nikkei 225 Average and the Banking Industry Index (from January 13th to February 13th). Table 4 shows the

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might have also evaluated this measure as indicating increased leniency on the part of the regulators.

[17]This purpose was clearly expressed in the original recapitalization plan released by the Liberal Democratic Party in December 1997. According to the screening criterion for the purchase of the stocks/ bonds in the plan, weak banks which had a high possibility of failure after issuing the stocks/bonds should be excluded.

[18]The board consists of seven members; three experts from the private sector, the Ministry of Finance, the Commissioner of the Financial Supervisory Agency, the Governor of the Bank of Japan, and the

relationship between non-performing loans and returns on banks' stock prices. Chart 7 illustrates three periods when stock prices of the banking industry showed remarkably high returns (from January 16th to 19th, January 26th and February 9th). These responses were mainly brought about by the expectation of capital infusion by public funds, although some of the impact on stock prices might also be due to the announcement of the reevaluation of property assets (January 14th) as mentioned in subsection B.

TABLE 4

The Relationship between Banks' Non-Performing Loans and Returns on Their Stock Prices

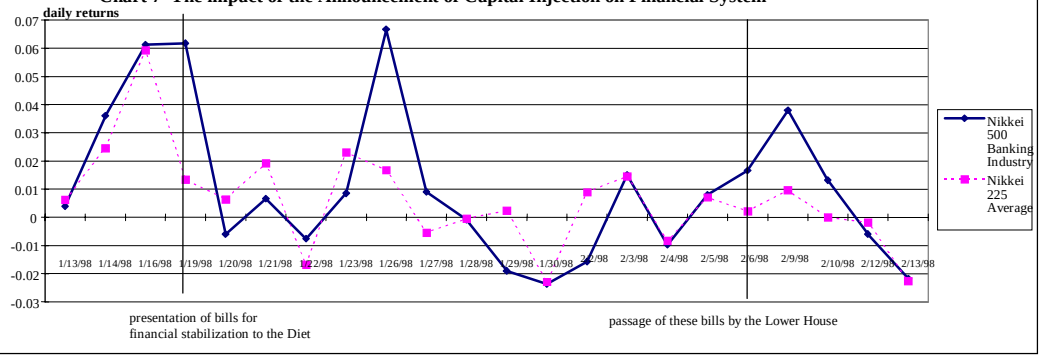
$$Y_i = \alpha + \beta X_i$$

Y_i = returns of bank's stock prices
X_i = non-performing loans to capital

	Jan 16 ' 98	Jan 19 ' 98	Jan 20 ' 98	Jan 22 ' 98	Jan 23 ' 98	Jan 26 ' 98	Jan 27 ' 98	Jan 30 ' 98	Feb 5 ' 98	Feb 6 ' 98	Feb 9 ' 98	Feb 10 ' 98
Correlation coefficient	0.47*	0.44*	-0.18	-0.51*	0.46*	0.68*	0.58*	-0.69*	0.11	0.45*	0.37*	0.53*

* The coefficients of the null hypothesis are rejected at 1% revel.

Chart 7 The impact of the Announcement of Capital Injection on Financial System



When comparing Chart 7 with Table 4, remarkable increases in returns correspond to the strong positive correlation between banks' non-performing loans and their stock returns in Table 4 (shaded areas). This result indicates that the release of capital injection by public funds had a stronger positive impact on banks with a large amount of non-performing loans. Also, falls in returns correspond to the negative correlation

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between banks' non-performing loans and their stock returns. In particular, this relationship was clearly recognized on January 30th, when concerns that the passage of the bills would be delayed due to reports of a possible MOF scandal were widespread. This result indicates that the negative news regarding capital infusion by public funds had a stronger effect on weaker banks with more non-performing loans. Investors focused on weak banks rather than on strong banks whose capital base's strengthening was intended to be the core of this measure.

This seeming contradiction might be due to the following reasons.

(1) As mentioned, officially, the purpose of capital injection was solely to maintain order in the provision of credit, not to reconstruct the financial institutions issuing preferred stocks / subordinated bonds. However, partly due to insufficient disclosure of details of the capital injection plan, market participants might have misinterpreted it as an attempt to favor weak banks.

(2) Emergency measures taken in the latter half of FY 1997 were mixed. Some measures, such as the revision of accounting rules for stock, were aimed at easing painful losses from held securities in weak banks. As a result, capital injection by public funds, which aimed at bolstering the capital base of strong banks, might have been misinterpreted as another measure favoring weak banks.

(3) Even if capital were injected equally into weak banks and strong banks, the effects would be more greater on the stock prices of weak banks than on those of strong banks. For weak banks' shareholders, a capital injection could be regarded as an effective way to prevent them from losing their share value, whereas a one- shot capital injection into relatively strong banks would have little effect in sustaining the profits of the banks. Combined with the circumstances described in points (1) and

(2), these differences in the effects of capital injection were seen all the more vividly.

5. Conclusions and Implications

This paper has investigated whether or not the announcements or implementation of measures to boost the banks' capital base taken by the government have had any impact on stock prices. Our findings can be summarized as follows: (1) The announcement of the introduction of cost method accounting in the valuation of equity portfolios had a limited effect on the stock prices of the banking industry. This result is in sharp contrast to the stock price responses to a similar accounting rule change designed to avoid losses in the case of valuation at the "lower of cost or market" method in the past. (2) The announcement of reevaluation of property assets at current market values had a relatively strong impact on stock prices, particularly on those of banks with lots of property assets. (3) The deliberation over capital injection into the financial system by the Diet also had a strong impact on stock prices, particularly on those of weak banks.

These findings can be interpreted as follows:

(1) Stock investors evaluate the mark-to-market accounting style measure which discloses banks' true figures more highly than before. In this sense, in the Japanese stock market, investors have come to see the true conditions of the market more clearly. (2) Capital injection by the government might be interpreted by investors as an attempt to favor weak banks rather than to bolster the capital base of strong banks.

As mentioned in Section 4.C, these measures consisted of a policy mix and some measures seemed to be inconsistent. In particular, the introduction of cost method

valuation of equity portfolios clearly contradicted the philosophy of reevaluation of property assets at current market values and, in a sense, might be considered to be a kind of "forbearance policy" which the government should never use again. These inconsistencies might reflect the characteristics of these emergency measures, which some have criticized as a legislative patchwork.

Looking at past financial crises in other countries, there seem to be several examples of similar "cosmetic" measures on accounting rules. During the S&L crisis in the USA, regulators also changed accounting principles, worsening the moral hazard of S&L shareholders and managers. In October 1981, the Federal Home Loan Bank Board (FHLBB) changed the Regulatory Accounting Principles (RAP)[19] to cope with unrealized losses of mortgage assets S&Ls held. At that time, S&Ls had huge unrealized losses of mortgage assets. Selling these assets and realizing the losses would have squeezed their profits. In order to avoid theses losses, the FHLBB allowed the S&Ls to spread their losses over the period to maturity of the mortgage assets. As a result, this measure enabled the S&L industry to increase its capital by $6.3 billion. When the bankrupt S&Ls were later bailed out, this measure was criticized harshly by Congress for hiding the true economic value of thrifts. As the experience of the S&L crisis shows, policymakers are frequently tempted to keep open institutions that should be allowed to die. In order to undercut these incentives of supervisors, the goal and policy framework of failure prevention should be prepared. Failure prevention should seek to mitigate the systemic consequences of failure, not to head off failures.

[19] In the USA banks are subject to Regulatory Accounting Principles (RAP) in addition to Generally Accepted Accounting Principles (GAAP). During the S&L crisis in 1980's, the gap between GAAP and RAP for the S&L widened and this was considered to be at least partly due to regulators' " forbearance policy" toward the S&L industry at that time.

As for a policy framework, policymakers need to make use of marketplace vigilance. They have been right to recognize the need for regulatory oversight, but wrong to think oversight alone is sufficient. As the nation's financial markets grow increasingly complex and fast-paced, the government can rely more upon the discipline of the market. Transparency in policies is necessary in order to discipline banks against following imprudent policies. Also, accounting principles which discipline banks to disclose their true economic value should be required. As illustrated in this article, market discipline in Japan is improving, making it all the more important for policy makers to harness this market discipline.

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