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What Promotes Japanese Regional Banks to Disclose Credit Ratings Voluntarily?

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1. Introduction

The Japanese payout limit system, which had been frozen in the latter half of the 1990s because of the serious depression of the financial system, was partially unfrozen in 2002.¹ In 2005, the payout limit system was fully unfrozen, and deposits (except deposits for settlement) over 10,000,000 yen are now not always protected when a financial institution fails.² That is to say, a depositor who is unconcerned about the management of his financial institution runs the risk that his deposit assets might decrease.

To cope well with these situations, depositors must utilize disclosure contents provided by financial institutions to identify a solid financial institution, and they must also continue to pay attention to the soundness of the selected financial institution. Policy authorities now require financial institutions to disclose more information than before; as a result, the soundness of financial institutions is now clearer than ever. Nevertheless, it is not always easy for general depositors (except big depositors like firms) to interpret and analyze the data in a financial statement. In order to demonstrate their solidness in the market, financial institutions that are compared with other institutions and selected by customers should not only disclose the information required by authorities but should also freely and voluntarily disclose additional information that is not so required.

Obtaining credit ratings is one of the strongest means of disclosure. Not only big depositors such as firms but also general depositors can interpret credit ratings easily because they are indicated by single letters of the alphabet. Many financial institutions show their credit rating rankings on their homepage, including annual reports, etc., probably because they recognize importance of disclosure to all market participants. But because obtaining credit ratings is undertaken voluntarily, some financial institutions obtain credit ratings while others do not, as discussed in Section 3. Particularly large differences can be observed among financial institutions in obtaining credit ratings from foreign rating agencies such as Standard & Poor's (S&P) and Moody's Investors Service (Moody's).

In the present study, we investigated what types of Japanese regional banks are currently more likely to obtain credit ratings when disclosures by financial institutions have become more important than ever. We also analyzed whether regional banks that disclose more credit ratings succeed in obtaining financing from depositors now that the freeze on the payout limit system has been lifted.

The remainder of this paper is as follows. In Section 2, previous studies on disclosure activities by financial institutions are reviewed. In Section 3, the data and methodologies employed in the present study are explained. Section 4 presents and interprets the empirical results, and a summary and conclusions are provided in final section.

¹ Only the payout limit system on savings deposits such as time deposits was unfrozen in 2002.

² Deposits for settlement that satisfy all of the following criteria are now protected by deposit insurance: (1) no interest is paid on the deposit; (2) the deposit is a demand deposit; and (3) the deposit may be used for settlement.

2. Literature Review

Previous studies that analyze the characteristics of firms that are aggressively about disclosing credit ratings include Moon and Stotsky (1993), Cantor and Packer (1994, 1997), Pottier and Sommer (1999).³

Moon and Stotsky (1993) analyzed the characteristics of firms that obtain credit ratings from S&P and Moody's and the determinants of rank of both credit ratings. They found that firms that have larger debts tend to obtain more credit ratings. Cantor and Packer (1994) investigated the characteristics of firms that obtain third credit ratings (other than S&P and Moody's) in the issue of floating junk bonds, finding that firms that are classified as near-investment-grade by S&P and Moody's and those that are classified as investment-grade by either S&P or Moody's are more likely to obtain credit ratings from other agencies.

Cantor and Packer (1997) investigated the motivations of firms to seek credit ratings voluntarily from agencies other than S&P and Moody's.⁴ It can be said that if ex ante uncertainties about default risks of firms whose leverage and return on assets (ROA) (profitability) are high become greater, they might obtain more credit ratings in order to decrease uncertainties about their default risks. Cantor and Packer (1997) analyzed whether or not this is true, clarifying that this tendency is not observed. They also revealed that firms that have greater outstanding debt, and that might potentially profit more by obtaining credit ratings, are more likely to be aggressive in obtaining credit ratings. On the other hand, Pottier and Sommer (1999) concluded that insurance companies whose leverage and ROA are higher tend to obtain credit ratings actively. Pottier and Sommer (1999) also showed that insurance companies that raise more premium income, which is the debt of insurance companies, obtain more credit ratings.

Yamori (2004) and Spiegel and Yamori (2006) investigated what types of Japanese credit unions tend to disclose bad loans when such disclosures by credit unions are voluntary. They found that credit unions with more serious bad loans were less likely to choose voluntary disclosure, while larger credit unions were more likely to disclose information. Market forces, as measured by the intensity of local competition, did not force banks to disclose more information in March 1996, but did in March 1997. Kondo (2008) investigated what types of credit unions obtain credit ratings voluntarily, with nearly the same results as those of Yamori (2004) and Spiegel and Yamori (2006).

³ In addition to these studies, Poon (2003) and Ashbaugh-Skaife et al. (2006) have also analyzed credit ratings. Poon (2003) investigated whether unsolicited credit ratings are biased downwards in contrast to solicited ratings. Ashbaugh-Skaife et al. (2006) investigated whether firms' corporate governances affect their credit rating rankings.

⁴ Hsueh and Kidwell (1988) analyzed whether firms that obtain more than two credit ratings can decrease borrowing costs when they float bonds to finance, concluding that such firms can finance at lower cost when the ratings given by the two agencies are the same. And Cantor and Packer (1994) showed that ratings of investment-grade are given more easily when firms obtain a third (or fourth) credit rating.

3. Methodology and Data

3.1. Methodology

The objective credit rating agencies considered in the present paper are S&P, Moody's, the Japan Credit Rating Agency (JCR) and Rating and Investment Information (R&I).⁵ The dependent variable was the number of credit ratings that a regional bank obtained and the equation was estimated using an ordered probit model. When ranking credit ratings, JCR evaluates the market environment in which a bank operates, the financial base and earning power of the bank, and the safety net of the bank. We consider independent variables, taking into consideration the aspects evaluated by the JCR as well as previous studies, and using the variables as explained below.

JCR evaluates the market environment in which a bank operates based on the following three points: (1) the stability of the Japanese financial system, (2) the stability and growth characteristics of the geographical area in which the bank operates, and (3) the management team and operation policy of the bank. We focus here on (2) because the characteristics of regional banks can be easily determined, but do not examine (1) because every bank faces the same situation, or (3) because it is difficult to obtain the necessary data. The following three items are used as proxy variables of (2): the gross domestic product (GDP_i) in the prefecture where the headquarters of bank i is located is used as an index of economic performance; the Herfindahl index ($Concentration_i$) in the prefecture where the headquarters of bank i is located is used as the degree of market concentration; and the ratio of the bank balance of bank i to the sum of bank balances ($Share_i$) in the prefecture where the headquarters of bank i is located is used as the index of share in the regional market.

Among these variables, the Herfindahl index is a variable that tests whether banks in more competitive markets are pressured to disclose voluntarily by market discipline, as concluded by Spiegel and Yamori (2006) and Kondo (2008). If banks in more competitive regions tend to disclose credit ratings to raise customer confidence, the coefficient of $Concentration_i$ will be negative. The Herfindahl index is calculated based on the deposit accounts of first-tier regional banks, second-tier regional banks and credit unions.

The financial base and earning power of a bank is evaluated by the volume of risks that the bank has and the preparations taken to manage those risks, capitalization, and the level and stability of the profit. The share of stock-holding to assets ($Risk_i$) and the bad debt ratio (Bad_i) are proxy variables. The capital-asset ratio ($Capital_i$) and the ROA (ROA_i) are used as proxies of capitalization and the level of the profit, respectively.

⁵ In examining the Fitch Ratings, we were unable to distinguish solicited credit ratings from unsolicited ratings on the Fitch Ratings homepage. So we asked Fitch Ratings about this and were told that they do not distinguish solicited from unsolicited ratings, but do distinguish between participating and non-participating ratings; that is, whether the rated firms participated in the process of evaluating credit ratings. Because it is difficult to distinguish participating from non-participating ratings according to the data we can obtain, we excluded the Fitch Ratings from this research.

Banks that have more stock holdings tend to face the risk of holding a larger unrealized loss. The coefficient of $Risk_i$ will be positive if such banks acquire credit ratings to dispel the uncertainties about market risks. Pottier and Sommer (1999) tested whether this hypothesis is true. But it can also be considered that banks that have many stock holdings are not managed appropriately. The coefficient of $Risk_i$ will be negative if such banks make light of information disclosure.

The bad debt ratio is an index that tests whether banks that have inconvenient information of their own tend to hide this information, as discussed by Spiegel and Yamori (2006) and Kondo (2008). According to both of these studies, it is expected that the coefficient of Bad_i will be negative.

As noted in both Cantor and Packer (1997) and Pottier and Sommer (1999), if banks whose leverage and ROA are higher face more uncertainties about default risks and therefore want to dispel them by disclosing credit ratings, the coefficient of $Capital_i$ (the inverse of leverage) will be negative that of ROA_i will be positive. But higher leverage also reflects lower reserve force to take risks. Thus, such banks might be less likely to obtain credit ratings because they are afraid of being assigned a lower rank. Banks that achieve a higher ROA obtain credit ratings because they are very likely to be given higher ratings, rather than to reduce uncertainties about their default risks. Furthermore, there are some regional banks that are required to clear the BIS (The Bank for International Settlement) standard (8%) for the capital-asset ratio and there are other regional banks that are required to clear domestic rule (4%). We therefore subtract 8% from the capital-asset ratio of banks to which the BIS standard is applied, and subtract 4% from the capital-asset ratio of all other banks.

On the safety net, the deposit insurance system, which is a representative safety net in the financial system, is not considered here because the same guarantee is applied to all failed banks. However, the effect of the too big to fail (TBTF) policy should be tested, as in Spiegel and Yamori (2006) and Kondo (2008). If the policy that authorities do not intentionally let large banks fail in order to avoid large damages to regional economies is maintained now, depositors of larger banks do not tend to pay attention to the financial position of the banks they use. In this case, it is believed that larger banks do not actively acquire credit ratings. Asset ($Asset_i$) is used as a proxy of scale.

We also introduce a dummy variable ($Dummy_i$) that takes 0 if no other bank in a bank's prefecture goes bankrupt, and that takes 1 if at least one other bank goes bankrupt in the same prefecture. In this paper, banks that have failed since 1995 are regarded as failed banks.⁶ If the depositors in a prefecture that has experienced bankruptcy are more suspicious of the creditworthiness of private financial institutions⁷ and therefore banks in those regions tend to disclose credit ratings to decrease those suspicions, the coefficient of $Dummy_i$ will be positive. This

⁶ The failure of the Hyogo bank in 1995 was the first case of a Japanese bankruptcy after World War II.

⁷ Cargill and Yoshino (2003) also showed that depositors of private financial institutions shifted their deposits from private financial institutions to postal savings in regions that experienced bankruptcies.

dummy variable is introduced to test the hypothesis presented by Spiegel and Yamori (2006).

3.2. Data

Let us examine the descriptive statistics of the data used in the present study. Table 1 shows the descriptive statistics of independent variables in the estimated model. Table 2 shows the descriptive statistics of the number of credit ratings obtained by regional banks. The data in Table 1 dates from the end of March 2008, and those in Table 2 are based on the data on the homepages of the credit rating agencies used here on August 11, 2009. “Domestic” in Table 2 means the descriptive statistics of the number of credit ratings obtained from domestic credit rating agencies (JCR and R&I); “Foreign” means those obtained from foreign credit rating agencies (S&P and Moody’s); and “Total” is the sum of “Domestic” and “Foreign”.

Table 1. Descriptive statistics (independent variables).

	<i>Concentration</i>	<i>Share</i>	<i>Risk</i>	<i>Bad</i>	<i>Capital</i>	<i>ROA</i>
Maximum	624.267	142.682	9.084	31.291	10.340	1.054
Minimum	7454.352	0.590	0.291	3.940	1.580	-4.566
Mean	3934.201	30.923	2.074	8.820	5.895	0.210
Std. Dev.	1569.295	25.758	1.231	3.980	1.787	0.659
Observations	106	106	106	106	106	106

Table 2. Descriptive statistics (number of obtained credit ratings).

	Domestic	Foreign	Total
Maximum	2	2	4
Minimum	0	0	0
Mean	1	0.321	1.321
Std. Dev.	0.549	0.544	0.834
Observations	106	106	106

Let us now consider Table 2. Japanese regional banks tend to obtain credit ratings from domestic credit rating agencies rather than from foreign ones. The average number of credit ratings obtained is 1.3. Nevertheless, one regional bank obtained ratings from all 4 agencies, and 15 regional banks obtained none. Taking into consideration the fact that all 4 Japanese city banks obtained credit ratings from all 4 agencies, it is clear that regional banks are less likely to disclose than city banks.

The sources of the data employed in this paper include the bank balances, lending accounts, assets, stock holdings, ordinary profits and capital-asset ratios of each bank, and the lending accounts of each credit union are quoted from the Nikkei NEEDS (Nikkei Economic Electronic

Databank System).

4. Empirical Results

4.1. Background of Obtaining Credit Ratings

We investigated what types of regional banks are more likely to disclose credit ratings. We examined regional banks that had obtained credit ratings as of August 11, 2009 by using the homepages of S&P, Moody's, JCR and R&I. The dummy variable, which indicates the number of credit ratings that each bank acquires, was introduced as a dependent variable and an ordered probit model was estimated. The present estimated results are shown in Table 3. In Table 3, RANK shows the situation in which the dummy variable reflects all 4 credit ratings agencies; RANKF indicates foreign agencies (S&P and Moody's); and RANKD indicates domestic agencies (JCR and R&I).

Table 3. Estimated results.

	RANK	RANKD	RANKF
	Coefficient (z-value)	Coefficient (z-value)	Coefficient (z-value)
<i>Concentration</i>	-0.000*** (-3.122)	-0.000** (-2.394)	-0.000** (-2.504)
<i>GDP</i>	-0.702*** (-2.838)	-0.411 (-1.641)	-1.287*** (-2.745)
<i>Share</i>	0.012 (1.377)	0.008 (0.853)	0.016 (1.260)
<i>Asset</i>	0.776*** (3.522)	0.503** (2.286)	1.123*** (2.787)
<i>Risk</i>	0.051 (0.497)	-0.007 (-0.061)	-0.016 (-0.115)
<i>Bad</i>	-0.042 (-1.072)	-0.019 (-0.456)	-0.309*** (-2.678)
<i>Capital</i>	-0.097 (-1.325)	-0.059 (-0.739)	-0.055 (-0.580)
<i>ROA</i>	0.024 (0.106)	-0.201 (-0.848)	2.109** (2.488)
<i>Dummy</i>	0.399 (1.260)	-0.276 (-0.801)	1.475*** (3.177)
MU2	2.218*** (8.098)	2.471*** (9.935)	2.021*** (5.635)
MU3	3.587*** (10.388)		
MU4	4.812*** (8.878)		
Scaled-R ²	0.481	0.236	0.551
Log likelihood	-97.229	-73.952	-42.556
Samples	106	106	106

* indicates significance at the 10% level; ** significance at the 5% level; *** significance at the 1% level.

Let us first consider RANK. The coefficient of *Concentration_i* is negative and significant at the 1% level. Regional banks in more competitive markets are pressured to disclose by market

disciplines. This result is consistent with those of Spiegel and Yamori (2006) and Kondo (2008). The coefficient of GDP_i is negative and significant at the 1% level. If pulling power and the solidness of regional banks are higher in rich regions, monitoring management of regional banks by depositors, stockholders and other customers might be weaker in such regions. If so, regional banks in such regions might not be strongly pressured to disclose by market forces.

With respect to the independent variables concerning the characteristics of each bank, the coefficient of $Asset_i$ is significantly positive at the 1% level. It can be deduced that large regional banks, where economies of scale are at work, obtain more credit ratings because they can easily afford to pay credit rating agencies. We might also point out that larger regional banks acquire more credit ratings to compete with city banks, which frequently acquire credit ratings from all 4 agencies.

The coefficient of $Dummy_i$ is not significant. Thus, failures of other banks in the same region do not entail pressure to disclose. This result is consistent with that of Spiegel and Yamori (2006). The coefficients of $Capital_i$ and ROA_i are also insignificant. This is different from the results reported by Pottier and Sommer (1999) but consistent with those of Cantor and Packer (1997).

The coefficient of Bad_i is negative and insignificant. This result differs from those of Spiegel and Yamori (2006) and Kondo (2008).

Let us now consider RANKF and RANKD. The coefficient of $Concentration_i$ is negative and significant at the 5% level in both cases and the coefficient of $Asset_i$ is positive and significant (the former at the 1% level and the latter at the 5% level). In other words, regional banks in more competitive markets and larger regional banks in which the scale of economies is at work tend to disclose credit ratings whether acquired from domestic or foreign agencies.

The coefficient of Bad_i for RANKF is significantly negative at the 1% level, which is different from its result for RANK. This is consistent with the results of Spiegel and Yamori (2006) and Kondo (2008). Taking all of these results into consideration, it is reasonable to state that regional banks that hold inconvenient information are afraid of being given low credit ratings and are therefore less likely to seek credit ratings, especially from foreign agencies.

The coefficient of ROA_i is significantly positive at the 5% level at for RANKF. Taking into consideration the fact that the coefficient of $Capital_i$, which is the inverse of leverage, is insignificant, it follows naturally that the significant coefficient of ROA_i means that banks that reach a high ROA obtain credit ratings because it is highly likely that they will be given high ratings, and not because they want to decrease uncertainty about their default risks.

The coefficient of $Dummy_i$ for RANKF is positive and significant at the 1% level, which is different from its result for RANK. Thus, regional banks in regions where other banks have failed feel themselves required to defend their own soundness by obtaining foreign credit ratings.⁸

⁸ We took failures of credit unions into consideration in setting $Dummy_i$ and in the associated estimations. As a result, this coefficient was significantly positive at the 5% level in this estimation

4.2. Effects of Disclosure of Credit Ratings on Deposit Accounts

Let us now examine whether voluntarily obtaining credit ratings has a positive effect on the management of regional banks. Specifically, the following Cobb-Douglas production function was estimated and we tested whether gaining credit ratings can increase the bank balances of regional banks.

$$\log Deposit_i = c_0 + c_1 \log Labor_i + c_2 \log Branch_i + c_3 Disclosure_i \quad (1)$$

$Deposit_i$ is the bank balance (average balance) of bank i . $Labor_i$ and $Branch_i$ are the number of people on the staff of the bank and the number of its branches, which are factors of production. Data are quoted from Nikkei NEEDS at the end of March 2009. $Disclosure_i$ is the disclosure dummy that indicates the number of credit ratings obtained by the bank.

As mentioned in Section 1, the total amount of deposit for settlement is protected by deposit insurance when a bank fails. To take this into consideration, $Deposit_i$ is calculated by the bank balance (average balance) of bank i minus the outstanding balance (average balance) of its checking accounts. The estimated results are shown in Table 4. Standard errors are calculated as White heteroskedasticity-consistent errors.

Table 4. Estimated results (dependent variable = deposit accounts minus checking accounts).

	RANK	RANKD	RANKF
	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)
Constant	4.334*** (14.175)	3.986*** (16.135)	4.265*** (16.300)
<i>Labor</i>	1.172*** (13.345)	1.219*** (15.048)	1.192*** (14.675)
<i>Branch</i>	0.171 (1.446)	0.189 (1.643)	0.168 (1.496)
<i>Disclosure</i>	0.066** (2.234)	0.017 (0.413)	0.091** (2.588)
Adj-R ²	0.962	0.960	0.962
Samples	106	106	106

* indicates significance at the 10% level; ** significance at the 5% level; *** significance at the 1% level.

The coefficient of $Disclosure_i$ is significantly positive at the 5% level for RANK, whose object of $Disclosure_i$ is all 4 credit rating agencies. Thus, regional banks that disclose more credit ratings succeeded in raising more deposits from depositors.

Now let us consider the results for both RANKF and RANKD, whose object of $Disclosure_i$ is 2

as well.

foreign agencies and 2 domestic agencies, respectively. The coefficient of $Disclosure_i$ for the former is positive and significant at the 5% level while that for the latter is positive but insignificant. Based on these results, it can be concluded that regional banks that disclose more foreign credit ratings, which cost a lot, can increase their bank balances, but it can not be asserted that regional banks that disclose more domestic credit ratings have an advantage in obtaining financing from depositors.⁹

5. Conclusions

The present study focused on the obtaining of credit ratings by Japanese regional banks and investigated what types of regional banks are more likely to disclose these ratings and whether their acquisition functions positively in the management of regional banks.

First, we conclude that regional banks in more competitive markets are required to disclose credit ratings due to market disciplines. Furthermore, larger regional banks, in which economies of scale are at work, tend to disclose credit ratings because the charges paid to credit rating agencies might not affect them unduly and they might be conscious of competing with city banks, all of which obtain credit ratings from all 4 agencies considered here. Finally, regional banks with a higher bad debt ratio are less likely to acquire credit ratings to hide inconvenient news of their own.

Based on our analysis focusing on the acquisition of foreign credit ratings, few note first that regional banks whose bad debt ratio is lower and whose ROA is higher, in other words, regional banks that are highly likely to be given high ratings, positively disclose foreign credit ratings. Additionally, regional banks in areas where other banks went bankrupt are under extreme pressure to defend their own solidness actively to the markets by obtaining foreign credit ratings.

We also investigated whether disclosures by regional banks have positive effects on financing from depositors, finding that regional banks that obtain more credit ratings, in particular foreign ratings, can increase their bank balances.

Now that disclosures are widely regarded as necessary for market disciplines, it has been shown that disclosures of credit ratings have positive effects on regional banks. Nevertheless, there are important issues that remain for future research. The reliability of the disclosed credit ratings remains to be clarified. Furthermore, remembering that credit ratings that were given to securitized papers of subprime loans were not evaluated properly, it remains unclear to what extent general customers should trust disclosed information.

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