



# Soft Information Management Effects on Lending Credit Terms in Japan

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**(Citation)**

神戸大学経営学研究科 Discussion paper, 2011・34

**(Issue Date)**

2011-06

**(Resource Type)**

technical report

**(Version)**

Version of Record

**(URL)**

<https://hdl.handle.net/20.500.14094/81002977>



Graduate School of  
Business Administration

KOBE  
UNIVERSITY



ROKKO KOBE JAPAN

2011-34

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Discussion Paper Series

# Soft Information Management Effects on Lending Credit Terms in Japan

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**Second Draft: 2011, 5**

## 1. Purpose

The purpose of this paper is to investigate how an organization's soft information management affects the lending credit terms with Japanese banks and cooperative financial institutions. Prior research suggests that small lenders have an advantage in accumulating and utilizing soft information through relationship lending with smaller, less transparent borrowers. Large banks, in contrast, have the advantage of using lending technologies based on hard, quantitative financial information (Stein, 2002; Berger and Udell, 2002; Cole et al., 2004; Berger et al., 2005; Liberti and Mian, 2009). However, Japanese lenders, who come from a long history of specific lending technologies part of the main bank system (Aoki and Patrick; 1994), have had a comparable advantage in constructing a platform for personal, face-to-face communication with borrowers. Therefore, they have been able to lend to borrowers with a comparably more long-term perspective; these lenders are more adept to use a long-term lending history towards a longer lending term. Meanwhile, small lenders have voiced difficulties in building a close relationship with borrowers and accessing the creditworthiness rating using other types of information that are not considered financial simply due to their organizational strength (SMRJ, 2008). Hence, we must first analyze whether the current Western paradigm concerning large banks, mentioned above, holds true for Japanese lenders. Secondly, we must explore the implication of an influence from the lender's management on substantial lending decisions.

Some existing research regarding Japanese lender relationships provide evidence supporting the

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current Western paradigm showcasing small lenders with a comparative advantage when using soft information (Uchida et al, 2008; Kano et al., 2010; Uchida, 2011). This literature is based on empirical results from the borrower, such as the lending demand's data. On the other hand, our paper is based on data from the "Organization for Small & Medium Enterprises and Regional Innovation, JAPAN" (SMRJ), which conducted a comprehensive analysis to all the lending institutions in Japan 2008. Thus, our paper is based on the lender, such as the supply-side data, and casts a new light on the existing research.

The SMRJ survey includes 428 banks and cooperative financial institutions that can all be categorized by one of the four following typologies: Mega Banks (Total Asset Size is on averaged , 69300 billion Yen), Tier I Regional Banks(Total Asset Size is on averaged , 3760.6 billion Yen), Tier II Regional Banks(Total Asset Size is on averaged , 1104.1 billion Yen), Community Banks(Total Asset Size is on averaged , 410.76 billion Yen), and Credit Unions(Total Asset Size is on averaged ,110.67 billion Yen). The SMRJ survey data allows us to address four important issues associated with relationship lending. First, does soft information actually have an affect on the substantial credit terms? Second, does an hierarchical organizational structure hamper the substantial usage of soft information. Third, does an organizational endeavor, such as a form of systematic management that helps to build up their commonly-shared knowledge for gathering, accumulating and utilizing soft information in lending decisions, encourage a substantial level of soft information usage. Fourth, is the facilitation of a standardized soft information list within the organization effectively beneficial during the lending decision.

Therefore, this paper aims to make four main contributions to the already existing literature regarding relationship lending. The first is to provide Japanese empirical evidence from lender-side data to show that the utilization of soft information has a positive effect on the credit decision. As of 2008, more than 60% of all Mega and Regional banks, including both Tier I and Tier II classifications, and more than 50% of Community Banks and Credit Unions, utilize soft information in evaluating a borrower's creditworthiness, which is further reflected in credit term decisions. However, these observations also run contrary to the current small business lending paradigm where Community Banks and Credit Unions focus on the utilization of soft information lending technologies, such as relationship lending, rather than hard-information technologies, such as the credit score (Berger and Udell, 2006). Amongst Japanese lenders, the soft information usage level is much smaller within Community Banks and Credit Unions compared to that found in the Mega banks and Tier I, Tier II Regional banks.

The second contribution of this paper is to study the effects of an organizational structure on credit term decisions. The SMRJ survey data includes the lending managers' opinions regarding the influence soft information has on credit terms, such as the amount offered, the collateral amount, the interest rate, and the length of financing. We specifically viewed the amount offered as a function of

the organization's size. Here, we assume two things: 1) that large organizations have an hierarchical structure, and 2) that the soft information substance will become ineffective when it is transferred from the loan officers to the lending managers. The results, however, reveal that an organizational structure does not actually affect substantial lending decisions, and that the utilization of soft information in lending decisions requires a comparatively large organizational strength. In Japan, where there is a great number of Community Banks with a diversified organizational size, a differentiation in firm size leaves small Community Banks incapable of using soft information, while relatively large Community Banks are able to utilize soft information in a credit decision.

Our third contribution is to study whether a standardized soft information list has an affect on shifting a loan officer's assessment more towards relationship lending. Facilitating a standardized form actually limits soft information that is inherently diversified amongst borrowers. However, a lot of professional affiliations, such as the Japanese Institute of Certified Public Accounts, and Government affiliations, such as the Ministry of Economic and Trade Industry, have proposed the facilitation of a standardized form to generate lender technologies used in relationship lending. We found that the standardized list curbs the affect of relationship lending upon the lending decision especially for the comparably larger structured banks. For small lenders, however, especially at the starting point, a standardized method would be beneficial in order to generate relationship lending technologies.

Our final contribution is to pioneer an examination of systematic management effects on soft information utilization in substantial lending decisions. Such an analysis was not possible in earlier studies, because the organizational management is an inherent part of the organization's strategy making it difficult to use outside information to assess whether lenders purposefully facilitate that management style or not. A comprehensive SMRJ survey would enable us to identify the form of systematic management. The results suggest that systematic management hinders the affects of relationship lending upon the lending decision. These results, however, appear to be limited to the comparatively larger structured banks. Systematic management would be beneficial for small lenders who have a lower soft information usage level, because it can be useful for implanting soft information in a loan officers' common practice in accessing borrowers and assessing their creditworthiness.

The remainder of this paper is organized as follows: Section 2 provides our four hypotheses associated with relationship lending. Section 3 also gives SMRJ survey data characteristics and descriptive statistics of five categorized lenders. Section 4 presents our estimated results along with our empirical methodologies used in this paper, and Section 5 ties everything together in our conclusion.

## 2. Soft Information Management toward building a lender-borrower relationship

## 2.1 Regulatory Shift: Loosening the Controls from the Japanese Financial Services Agency

Until the early 1990s, all banks and credit unions in Japan had been under the control of the Japanese Financial Services Agency (FSA). The management of lending institutions had always been under the strict control of FSA, and every significant decision required FSA approval. Japanese banks and credit unions had little discretionary power, especially with financial services other than credit lending. Typical examples of firms under government administration include banks, securities, and insurance companies, which are separately governed by their respective ministries. These industries were unable to enter other financial sectors before 1997. Previous to this, all financial institutions were restricted through government administration, but they were also ironically sheltered from bankruptcy by the same government protection. Consequently, bankruptcy with financial intermediations was very rare before the early 1990s.

## 2.2 The Heavy Recession in the 1990s and the Deregulation of Financial Institutions

The main bank relationship is narrowly defined as the long-term transaction relationship between a certain firm and a respective bank that has the largest share in the borrower's lending (Aoki et al., 1996, p. 16). However, the main bank relationship is also widely defined as a main bank that constitutes a prominent role in the borrower's management, and market participants and financial regulators are expected to monitor the borrower exercising their right to intervene when the borrower faces certain financial distress (ibid., pp. 16-17) (which is different from Anglo-Saxon market-based governance). This intervention is supported by cross-holdings with the borrowers' shares, which are capped at a maximum 5% of the total shares for banks (Antitrust Act. It has been capped at a maximum 10% until 1987)<sup>1</sup>. Traditionally, a lender-borrower long-term transaction relationship involves cross-share holdings, management resource offerings, the dispatch of executives, various financial service offering, lending and offering other credit, commitment in the firm's business, and sometimes the role of co-signer insurance. After the 1990s, it also involves settling a variety of transactions, such as everyday expenses and foreign currency transactions, underwriting of corporate bonds, acting as an investment bank, and advising in security issuances and corporate takeovers (ibid., p. 16).

The main bank system had functioned well until the 1980s, but it involved concentrating financial risk in the banks. Therefore, under a financial crisis, banks incurred damages far greater than any other financial systems who were able to share financial risks with other parties, such as investors

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<sup>1</sup> Main Banks are an exception, because they are allowed to hold firms' shares only in Japan and Germany. In Anglo-Saxon countries like U.S. and U.K., a cross-holding is prohibited.

and creditors in a direct funding market. This prompted the Japanese government to *deregulate the business transactions* of financial institutions and remove the barriers for single service financial transactions<sup>2</sup>. Following this deregulation, banks were able to diversify and enter into all types of financial services.

However, after deregulation there was also an enormous increase in both inter-bank and market-driven competition. The deregulation of boundaries in franchising areas increased inter-bank competition, especially in the local market. Deregulation also caused a shift in the source of funding. Larger firms gradually shifted from main bank lending towards direct funding. Therefore, larger Mega banks increased their SME lending to compensate for losing large firm borrowers.

### 2.3 Introduction of the Government Action Program to Promote Relationship Lending

The increase in inter-bank and market driven competition threatens the survival of regional banks and credit unions. After the 1998 deregulation, bank infrastructures were further reduced, and the occurrence of mergers and acquisitions increased. Therefore, in March 2003, the FSA introduced an action program to prevent bankruptcy (“Program for Strengthening Relationship Banking Function.”) This program encouraged regional banks and cooperative financial institutions to move away from transaction lending and move toward relationship lending<sup>3</sup>.

The FSA believes that strengthening profitability and reducing insolvency through relationship lending enables lenders to overcome competition. However, whether the relationship lending business model is in accordance with FSA’s purpose is still unknown and should be investigated.

“Relationship” in the banking context implies close lender-borrower connections. Therefore, we define “relationship lending” as all mutually beneficial banking transactions that occur through the accumulation of soft information based on closer lender-borrower connections. Using survey data

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<sup>2</sup> We currently believe that the reduction of financial risk for banks by spreading the risk to all participants in the monetary market (not just banks) had limited success. In 2007, the withdrawals from three investment funds by the BNP Paribas triggered a financial crisis and the world economy went into recession; however, the frequency of bank bankruptcy in Japan was still low compared to the E.U. and the U.S.. In fact, after 2007, Japanese financial institutions even expanded their global market. For example, in September, 2007, Nomura Securities acquired the former powerhouse brokerage firm, Lehman Brothers, and in September, 2008, the Bank of Tokyo-Mitsubishi UFJ completed a tender offer for UnionBanCal in the U.S.

<sup>3</sup> The Action Program included a schedule for implementing the policy in stages. The first round (2003 to 2004) was meant to expand lending to SMEs, many of which were damaged during a stiff recession in the 1990’s. The second round (2005 to 2006) aimed at popularizing relationship lending for Regional banks and Credit Unions. Relationship lending is viewed as the only survival tactic for Credit Unions. Relationship lending, furthermore, is naturally selective of borrowers, because of an increased level of discretion through the use of soft information. Additionally, relationship lending, which uses soft information, requires specialized lending techniques simply because of its fragile characteristics. The last round (2007 to present) has been to continue the adoption policies set forth by the second round.

collected from all types of banking institutions, this paper investigates how lenders utilize and manage soft information<sup>4</sup>, which we hope will shed more light on relationship lending in Japan.

## 2.4 Hypotheses development

Prior research suggests that smaller lenders have an advantage in accumulating and utilizing soft information through relationship lending with smaller borrowers. Large banks, in contrast, have the advantage of using lending technologies based on hard financial information. However, Japanese lenders are at an advantage with their experience with specific lending technologies inherent of the original main bank system, and have a much more efficient time creating a method that promotes personal, face-to-face communication with borrowers. Meanwhile, smaller lenders have expressed difficulties in building intimate relationships with borrowers, and suffer from a weak organizational structure that prevents them from accessing the creditworthiness rating through non-financial types of information. Thus, the following hypotheses, if not rejected, will provide a current, preliminary, and contrary, Western paradigm, which acts as evidence in support of the experimental advantage of large Japanese lenders with relationship lending. Our hypotheses will also reveal the controversial issues surrounding the disadvantageous small Japanese lenders with regards to relationship lending (see Figure 1).

H1. (a) Large Japanese lenders have an advantage with the accumulation and utilization of soft information, and their soft information usage has a positive effect on the credit decision.

H1. (b) Small Japanese lenders have a disadvantage with the accumulation and utilization of soft information, because they have a weaker organizational structure, which further leads to a non-positive effect on the credit decision from soft information usage.

A loan officer is primarily responsible for gathering soft information from the long term relationship with a firm, the owner of a SME business, or a local community, etc. However, soft information is peculiarly characterized by invisibility, and therefore, is very difficult to verify and convey within lender organizations. This non-permeable situation inherent with soft information further causes problems within the agency, especially between the loan officers and the lending managers, who hold the final authority over loans. Stein (2002) notes that actual soft information values can be overlooked during loan officer-lending manager communications within larger hierarchies, which explains why larger and more hierarchical lenders tend to rely more heavily on

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<sup>4</sup> The Mega banks (our sample included 6 banks, such as Bank of Tokyo-Mitsubishi UFJ, Mizuho Bank, Sumitomo Mitsui Bank) were not affected by the Action Program promoting relationship banking. However, as Table 2 shows, they have been participating heavily in SME loans, and are therefore, included in our sample.



hard information.. Berger and Udell (2002) also reported that smaller lending organizations have less managerial layers, and are able to curb this tension. Scott (2004) rationalizes that community financial institutions, in which a loan officer also fulfills the lending manager role, are more readily able to access and use soft information<sup>5</sup> to enhance the credit available to small businesses. This evidence is consistent with Berger and Udell's (2002) findings. Thus, the following hypotheses, even if hypotheses 1. (a) and 1. (b) are not rejected, will reveal the root cause of the management challenge faced by larger banks executing the credit decision through relationship lending (see Figure 1).

H2. (a) If the organization has a large-hierarchical structure, useful core soft information will leak during the conveyance process from loan officers to lending managers.

H2. (b) If the organizational structure *does not* facilitate a managerial layer, then the useful core soft information *may not* leak because the loan officer will make the credit decision directly.

Since soft information has the peculiar characteristic of invisibility, and is, therefore, difficult to verify, the useful core soft information is naturally also difficult to quantify and document. Therefore, soft information, by nature, does not fit readily into standardized list, because these forms are limited in their scope and are likely to neglect certain aspects. Petersen (2004) explores the idea of "lost information" during transmission. However, the standardized soft information list is a very good reminder for lenders, because it is humanistic to overlook a relevant aspect and neglect very crucial information from the borrowers' business. In actuality, a lot of professional affiliations, such as the Japanese Institute of Certified Public Accounts, and Government affiliations, such as the Ministry of Economic and Trade Industry, have focused on this positive aspect and proposed a greater facilitation of a standardized soft information list to generate lender technologies used in relationship lending. Thus, the following hypotheses, even if hypotheses 1. (a) and 1. (b) are not rejected, will also shed light on the management challenge in relationship lending (see Figure 1).

H3. The facilitation of a standardized soft information list will hamper the efficient accumulation and utilization of soft information towards a lending decision: the lender's usage level of soft information will decrease when they rely on the standardized soft information list.

In order to optimize the lender's ability to make a fully educated judgment about the borrower's trustworthiness using soft information, an adequate amount of management is indispensable.

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<sup>5</sup> Many empirical researchers have also shown evidence that smaller lenders have been lending to small business for long terms, which further suggests that small lenders utilize soft information in small business lending relationships (Haynes et al., 1999; Cole et al., 2004; Berger et al., 2005).

Effective management creates a corporate culture that encourages the sharing of experience in gathering and accumulating soft information. Furthermore, a corporate culture helps to motivate loan officers to build their interpersonal discerning skills to improve their final lending decisions. The systematic management of soft information is often times accompanied with written rules. However, these written rules will be used to share a loan officer's knowledge of the clientele's soft information within the lending organization, and generate an embedded institutionalized repertoire of relevant soft information despite its non-durability, and inflexibility to be translated into hard information (Pertersen, 2004, pp. 11-12). A caveat, however, is when the written rules of systematic management mimic the aforementioned standardized information list used for collecting soft information. In this exceptional case, the written rules also bear the same dilemma as the standardized soft information list by dampening the use of soft information. Thus, the following hypothesis, even if hypotheses 1. (a) and 1. (b) are not rejected, will also reveal the management challenge in relationship lending (see Figure 1).

H4. Ineffective systematic management actually hampers the efficient utilization of soft information in a lending decision, and reduces soft information usage limiting its impact on the lending credit terms.

### 3 Survey Data and Descriptive Statistics of Our Sample Data

The primary data used in our analysis comes from a survey data originally from material provided by a working group called the "Finance Professionals Utilizing Soft Information in Lending to SMEs" formed by the Organization for Small & Medium Enterprises and Regional Innovation, JAPAN (SMRJ) in early 2008. Before sending questionnaires to the lenders, in late 2007 we conducted primary, face-to-face interviews with representatives from six lenders, and identified a general set of comprehensive hard and soft information used in making credit decisions and offering business support. Hard information involved thirteen items, while soft information involved twenty eight items. Soft information items are categorized into four groups: Managers, Business Contents, Customers and Suppliers, and Organization Basics. Questionnaires were mailed to 575 lenders, and we received back 428 lenders' responses (6 Mega Banks, 44 Tier I Regional banks, 34 Tier II Regional Banks, 234 Community Banks, 92 Credit Unions , and 4 others). A follow-up phone call was made to all lenders that did not respond by the deadline in order to improve the response rate, which eventually was at 76.3%.

The primary survey asked lender representatives to rank the current usage level of hard and soft information items in regards to the credit decision on a five point Likert Scale. In Panel A of Table 1, we present the mean and median values from this survey alongside the standard deviation, as a

function of the financial institution typology.

The primary survey also asked lender representatives to identify if the usage level increased or decreased for hard and soft information items during the credit decision following the introduction of the “Program for Strengthening Relationship Banking Function” in 2003, and rank their assessment on the same five point Likert Scale. In Panel B of Table 1, we present the increase or decrease in the current usage level as a percentage for each hard and soft information item, juxtaposed to the original usage level and standard deviation, as a function of the financial institution typology. It can easily be confirmed that the consistent ratios are dominant. Even though the Japanese government introduced the Action Program to enhance the soft information usage level, the lenders’ usage level has regrettably not increased a great deal.

We extracted two principal components from the total 41 items aforementioned in Table 2: hard information and soft information. Panel A of Table 2 presents the two principal component analysis scores according to five financial lender attributes, the percentage of lenders who facilitate a standardized soft information list and/or introduce the systematic management, and the percentage of lender representatives who think that soft information actually has an influence on the credit terms, such as the amount offered, the collateral amount, the interest rate, and the length of financing. The component scores are standardized and their values are adjusted according to the mean value being zero. Panel A of Table 2 also gives a correlation matrix of the soft information influence on the four credit terms.

#### 4 Empirical Specification and the Results

Firstly, we executed the ANOVA analysis to determine whether the level of hard and soft information usage differs across the various Japanese financial institution typologies. Table 3 shows the ANOVA test results and distribution graph for the hard and soft information component scores sorted according to each type of financial institution. Panel A of Table 3 shows the ANOVA test results for only the hard information primary components. The average score for Mega Banks (0.724), Tier I Regional Banks (0.392), Tier II Regional Banks (0.030), Community Banks (-0.012) and Credit Unions (-0.205) all differ across the financial institution typologies at a 1% significance level ( $p = 0.000$ ). The smaller the organization’s size, the less hard information is used in a credit decision.

Panel A of Table 3 shows ANOVA test results for only the soft information primary components. The average score for Mega Banks (1.336), Tier I Regional Banks (0.200), Tier II Regional Banks (0.178), Community Banks (0.009) and Credit Unions (-0.271) also differs across financial institution typologies at 1% significance level ( $p = 0.000$ ). The smaller the organization’s size, the less soft information is used in the credit decision, which is consistent with the first half of

Hypotheses 1. (a) and 1. (B). Figure2 illustrates the result.

Table 4 shows the results from the univariate test that calculates the impact of the soft information on respective credit terms: the amount offered by Mega Banks. Table 5 also shows the results from the probit regressions representing the impact of soft information on the respective credit terms: the amount offered across all institutional typologies other than Mega Banks. Our results show that Mega banks, Tier II Regional banks, Cooperative banks, and Credit Unions actually consider soft information when determining credit terms, which is consistent with the second half of Hypothesis 1. (a) but contrary to the second half of Hypothesis 1. (b). Relatively small organizations, such as Cooperative banks and Credit Unions, face difficulties in accumulating soft information, because it requires a certain level of organizational capacity for investment in order to achieve the maximum utilization and deliberation of soft information during credit decisions.

Table 5 shows the actual influence of the organization's size upon lending decisions in four institutional typologies, including Regional Banks Tiers I and II, Community Banks, and Credit Unions. We do not have these results for Mega Banks, because the sample numbers were not substantial enough to perform the regression. In the probit regression, the dependent variable is the amount offered and the independent variables include the following: 1) the primary soft information usage score, 2) the logarithm of the organization's total assets (size), 3) the multipliers of the total assets' Dummy variables (Dummy variable equals 1 if the lender's assets are larger than the median value, and is simplified to 0 if the assets are equal or less than the median value) and primary soft information usage score. This creates an additional composite variable that considers both the lender's usage and the organizational hierarchical structure.

The results, which contradict Hypothesis 2. (a) and 2. (b), reveal that an organizational structure does not actually affect the amount offered, but rather that the utilization of soft information in lending decisions requires a comparatively large organizational strength. In Japan, where there are a great number of Community Banks of various organizational sizes, large Community Banks have an advantage in utilizing soft information in a credit decision.

Table 6 shows the actual influence of the standardized soft information list on lending decisions in four institutional typologies, including Regional Banks Tiers I and II, Community Banks, and Credit Unions. We do not have results for Mega banks, because the sample numbers needed were not met to perform the regression. In the probit regression, dependent variable is the amount offered and independent variables are the following: 1) the primary soft information usage score, 2) the standardized soft information list's Dummy variables (Dummy variable equals 1 if the lender facilitate the standardized soft information list, and 0 otherwise), 3) the multipliers of the standardized soft information list's Dummy variables and the primary soft information usage score. This creates an additional composite variable that considers both the lender's usage and the standardized soft information list's affect. We found that the standardized list curbs the affect of

relationship lending on the lending decision especially for the comparably larger structure in Tier I regional banks, consistent with Hypothesis 3. We found a negative effect from standardized list itself toward the credit decision (coefficient for the standardized list is -0.7724, at significance level of 10%) by curbing soft information utilization (coefficient for the intersection between the soft information usage level and standardized list is -0.7552, at significance level of 10%). However, in Regional Tier II banks with a smaller structure, the standardized list enhances the utilization of soft information, contrary to Hypothesis 3. We found a positive effect toward the credit decision by enhancing the utilization of soft information (coefficient for the intersection between the soft information usage level and standardized list is 0.8372, at significance level of 10%). Lastly, for Community Banks (facilitation percentage is 52.4%) and Credit Unions (facilitation percentage is 43.5%), whose soft information usage level is considerably low, facilitating a standardized soft information list doesn't have any impact in the credit decisions.

Table 7 shows the actual influence of a systematic soft information management on lending decisions in four institutional typologies including Regional Banks Tiers I and II, Community Banks, and Credit Unions. We do not have results for Mega banks, because the sample numbers were not met in order to perform the regression. In the probit regression, the dependent variable is the amount offered and the independent variables are the following: 1) the primary soft information usage score, 2) the soft information's systematic management Dummy variables (Dummy variable equals 1 if the lender facilitates the systematic management of soft information, and 0 otherwise), 3) multipliers of the soft information's systematic management Dummy variables and the primary soft information usage score. This creates an additional composite variable that considers both the lender's usage and the effect of a standardized soft information list. We found that soft information systematic management curbs the affect of relationship lending in the lending decision, especially for the comparably larger structures of Tier I regional banks, consistent with Hypothesis 4. We found a negative effect on the credit decision by curbing the utilization of soft information (coefficient for the intersection between the soft information usage level and systematic management is -2.0914, at significance level of 5%). However, for Regional Tier II banks with a smaller structure, a form of systematic management *does not* hamper the utilization of soft information, contrary to Hypothesis 4.

## 5 Conclusions

Our results suggest the following. First, the usage level of soft information in small business credit decisions is strongly associated with a lending organization's size. Large lenders have a great advantage in the usage of soft information. This evidence shows a contradictory perspective to the current Western paradigm where smaller lenders have an advantage in utilizing soft information through relationship lending with a smaller borrower,. However, these results shed light on the

larger Japanese lenders experience from the Japanese traditional main bank systems in constructing a venue for personal, face-to-face communication with borrowers. However, small Japanese lenders especially, such as Community Banks and Credit Unions, have faced difficulties in creating lending skills not heavily dependent on hard information, and the collateral amount. This dilemma has possibly been due to their organizational strength, even though this could be an adverse effect from the governmental action of implementing the “Shared Responsibility Credit Guarantee Scheme” that warrants 100% SME lending. SME lending has a maximum limit at 200 million yen, which was supported for SME liquidity by the government budget until 2007 August. . This could hamper small lenders from establishing relationship lending technologies. The Japanese Financial Service Agency (FSA) actually introduced the “Program for Strengthening Relationship Banking Function” in 2003 to encourage creating lending skills especially amongst small lenders from the lending demand perspective. However, using the lending supply side data, we found that this action program has not functioned well; the usage level of soft information for small businesses has not increased. From the lending supply side viewpoint, utilizing relationship lending technologies needs a certain amount of the lending volume, which is suggested by Berger and Black (2010) and Berger and Rice (2010). Therefore, building up relationship lending technologies within small lenders needs to be approached from the perspective of the large volume lending from small businesses where small lenders cover the informational investment cost incurred as they develop a close relationship with small business borrowers and judge their creditworthiness.

Secondly, the results reveal that an organizational structure does not actually affect substantial lending decisions. Third, facilitating a standardized form actually limits soft information that is inherently diversified amongst borrowers, especially for large lenders. Last, the results suggest that systematic management hinders the affects of relationship lending upon the lending decision, especially for large lenders. The last two findings show the challenges in developing relationship lending technologies within organizations. On the other hand, our findings also suggest that for small lenders, especially at the starting point, a standardized soft information list would be beneficial in order to generate relationship lending technologies, consistent with professional affiliation proposals, such as the Japanese Institute of Certified Public Accounts and the Ministry of Economic and Trade Industry. The adequate management of soft information is challenging. However, if lender organizations hope to create relationship lending technologies within the organization, a form of systematic soft information management is inevitable. Written rules can be used to share a loan officer’s knowledge of the clientele’s soft information within the lending organization, and build an institutionalized repertoire of relevant soft information. This will help to control soft information’s non-durable nature, and inflexibility for translation (Petersen, 2004, pp. 11-12). An exception, however, is when the written rules of systematic management mimic the aforementioned standardized information list used for collecting soft information. In this situation, the written rules

take on the same dilemma as the standardized soft information list in dampening the use of soft information. Our data shows that lenders who introduce the systematic soft information management are also more inclined to facilitate a standardized soft information list. Lenders should be careful about falling into this situation. Even if lenders generate the credit culture using relationship lending in the organization, without sharing knowledge and an institutionalized repertoire at the judgment lending level, the final decision will rely heavily on the loan officer's personal experience (Berger and Black, 2010). Creating relationship lending technologies and establishing an institutionalized repertoire requires organizational rules. It is inevitable for creating an embedded certain norm and customs in the organization which has influence over soft information usage.

**[2011.6.2 1051]**

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**Figure 1 Hypotheses Sketch**

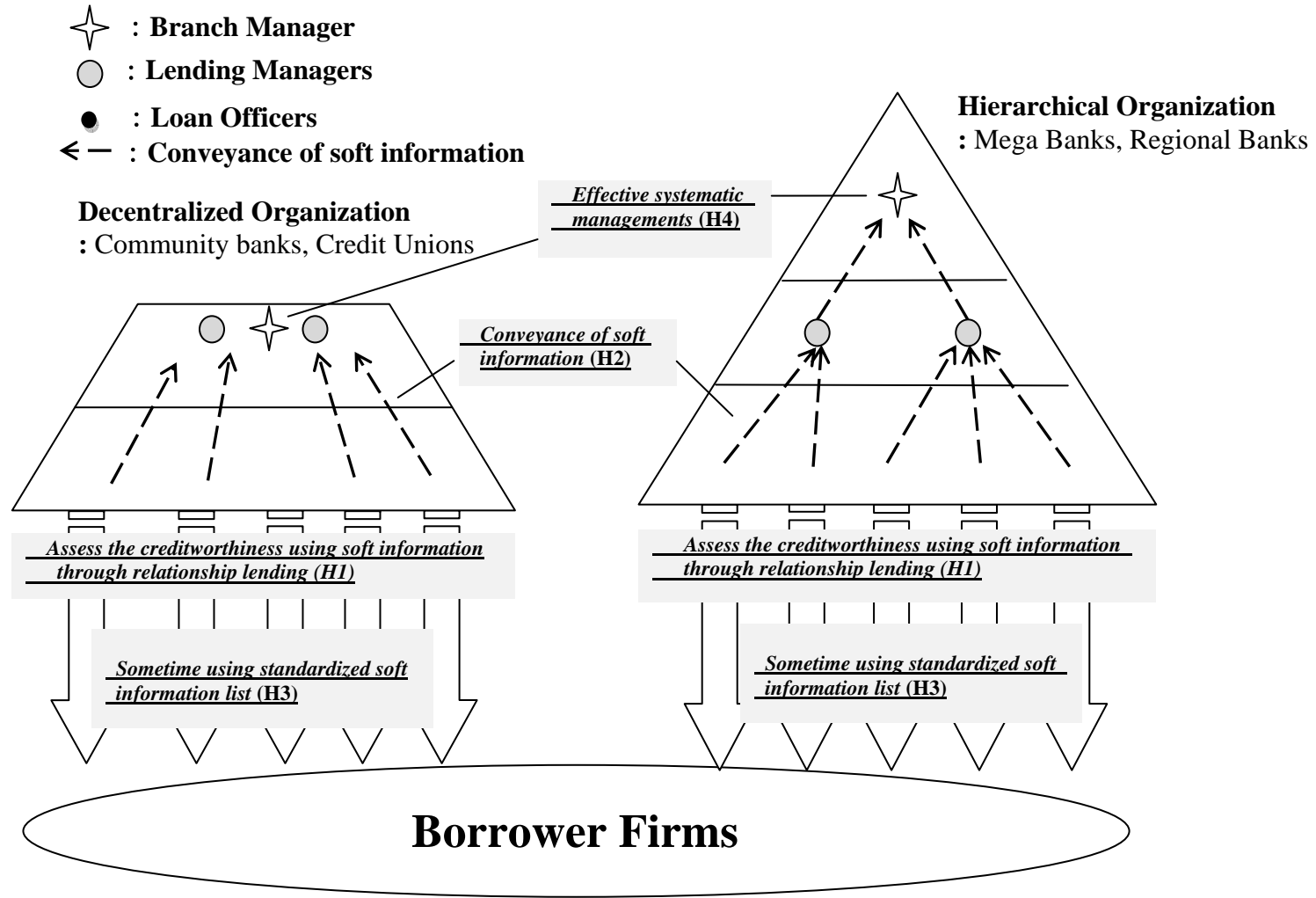
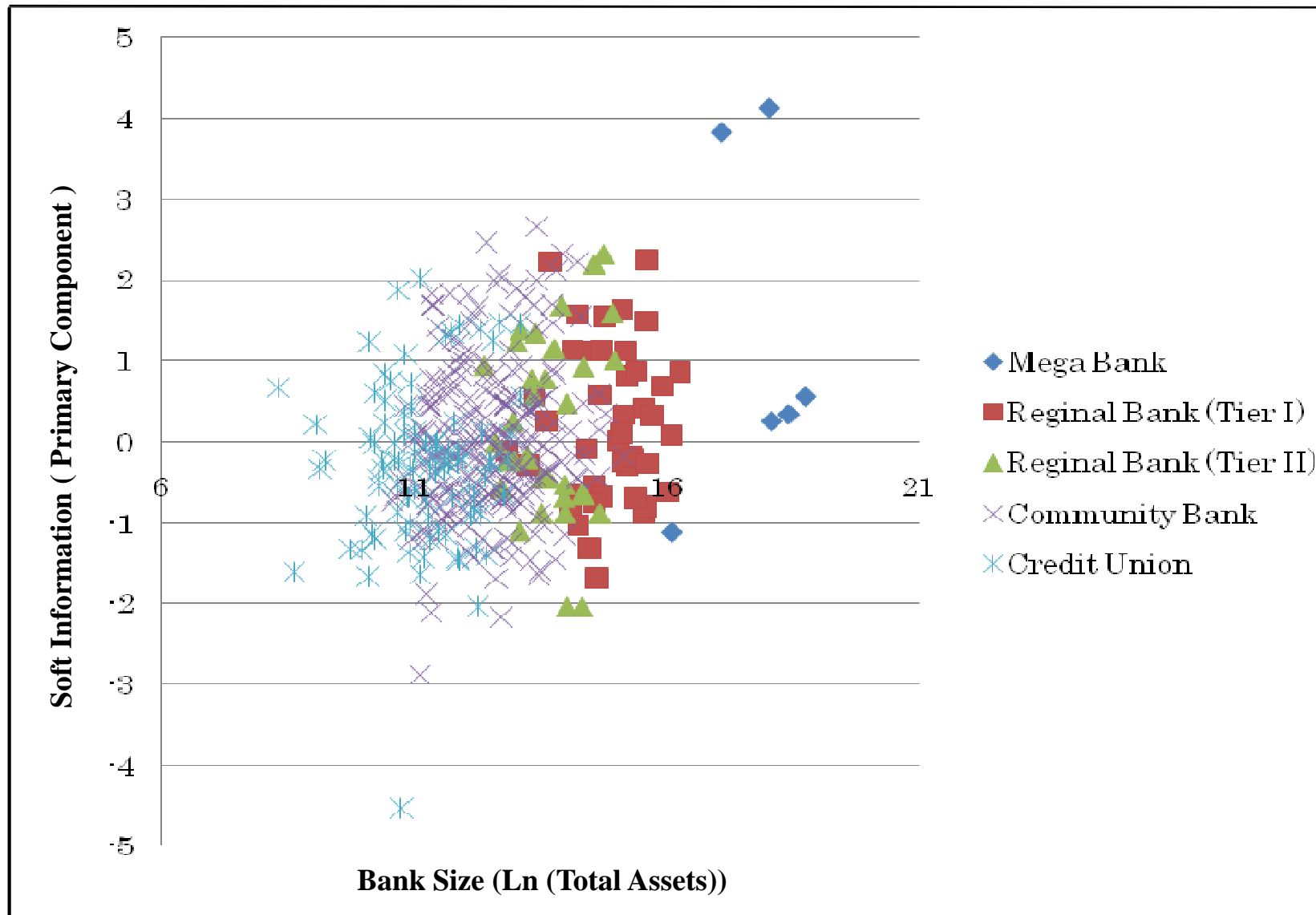


Figure 2: Distribution of Soft Information Primary Components







**Table2: Discriptive Statistics of Bank Characteristics**

**Panel A :Descriptive Statistics of Lender Characteristics**

	Mega Banks N=6			Regional Banks (Tier I ) N=44			Regional Banks (Tier II ) N=34			Community Banks N=234			Credit Unions N=92		
	Mean	Std. Dev.	Median	Mean	Std. Dev.	Median	Mean	Std. Dev.	Median	Mean	Std. Dev.	Median	Mean	Std. Dev.	Median
Bank Size (ln(Total Assets))	17.75	0.98	18.06	14.88	0.79	15.11	13.69	0.69	13.63	12.46	0.94	12.41	11.18	0.99	11.15
Payroll Costs to Total Assets(%)	0.220%	0.068%	0.239%	0.486%	0.099%	0.473%	0.672%	0.119%	0.671%	0.792%	0.155%	0.777%	0.923%	0.219%	0.937%
Loan Profitability(%)	1.19%	0.20%	1.22%	1.41%	0.22%	1.41%	1.79%	0.27%	1.80%	1.35%	0.34%	1.33%	1.69%	0.62%	1.60%
Bad Loan Ratio(%)	1.56%	0.42%	1.41%	4.03%	2.06%	3.67%	5.29%	2.12%	4.65%	7.85%	3.43%	7.04%	11.11%	5.66%	11.11%
SMEs Loan Ratio(%)	65.41%	21.31%	68.29%	74.19%	7.07%	74.58%	84.86%	4.63%	84.82%	90.32%	6.73%	91.30%	n.a.	n.a.	n.a.
Soft Information(premaliry component)	1.34	2.14	0.45	0.20	0.94	0.05	0.18	1.10	-0.09	0.01	0.93	-0.11	-0.28	0.98	-0.26
Hard Information(premaliry component)	0.72	1.75	0.20	0.39	0.85	0.51	0.03	1.12	0.24	-0.01	0.94	-0.04	-0.16	1.04	-0.30
Standardization of Forms/Manuals(%)	83.3%	40.8%	100.0%	58.1%	49.9%	100.0%	52.9%	50.7%	100.0%	52.4%	50.1%	100.0%	43.5%	49.8%	0.0%
Systematic Accumulation and Utilization of Soft Information(%)	83.3%	40.8%	100.0%	70.5%	46.2%	100.0%	52.9%	50.7%	100.0%	50.0%	50.1%	50.0%	34.8%	47.9%	0.0%
Amount Offered(%)	66.7%	51.6%	100.0%	65.9%	47.9%	100.0%	64.7%	48.5%	100.0%	54.7%	49.9%	100.0%	51.1%	50.3%	100.0%
Collateral Amount(%)	33.3%	51.6%	0.0%	63.6%	48.7%	100.0%	44.1%	50.4%	0.0%	34.2%	47.5%	0.0%	35.9%	48.2%	0.0%
Interest Rate(%)	66.6%	51.6%	100.0%	52.3%	50.5%	100.0%	38.2%	49.3%	0.0%	55.1%	49.8%	100.0%	51.1%	50.3%	100.0%
Length of Financing(%)	50.0%	54.8%	50.0%	54.5%	50.4%	100.0%	41.2%	50.0%	0.0%	25.6%	43.8%	0.0%	26.1%	44.2%	0.0%

**Panel B: Correlation Matrix for the Influence of Soft Information on Credit Terms (Spearman Correlation)**

	Mega Banks N=6				Regional Banks (Tier I ) N=44				Regional Banks (Tier II ) N=34				Community Banks N=234				Credit Unions N=92			
	(A)	(C)	(I)	(L)	(A)	(C)	(I)	(L)	(A)	(C)	(I)	(L)	(A)	(C)	(I)	(L)	(A)	(C)	(I)	(L)
Amount Offered (A)																				
Collateral Amount (C)	0.50				0.45				0.28				0.16				0.23			
Interest Rate (I)	0.25	0.50			0.56	0.41			0.33	0.03			0.22	0.17			0.04	0.17		
Length of Financing (L)	0.71	0.71	0.71		0.60	0.54	0.59		0.37	0.10	0.08		0.36	0.16	0.15		0.35	0.11	0.05	

\*\*\*, \*\*, \* denote significant at the 1%, 5%, and 10% level (two-tailed), respectively.

**Table 3: ANOVA Test Results for Hard and Soft Information Primary Compo**

**Panel A: ANOVA Test Results for Hard Information Primary Components**

typologies	Obsavations	mean	S.D.
Mega Banks	6	1.337	2.136
Regional Banks (Tier I)	44	0.200	0.936
Regional Banks (Tier II)	34	0.179	1.103
Community Banks	236	0.010	0.929
Credit Unions	93	-0.271	0.979

**F Statistics** 5.32\*\*\*  
**P-Values (Prob>F)** 0.0003

**Panel B: ANOVA Test Results for Soft Information Primary Components**

typologies	Obsavations	mean	S.D.
Mega Banks	6	0.724	1.746
Regional Banks (Tier I)	44	0.392	0.854
Regional Banks (Tier II)	34	0.030	1.122
Community Banks	244	-0.012	0.948
Credit Unions	96	-0.205	1.039

**F Statistics** 3.59\*\*\*  
**P-Values (Prob>F)** 0.00068

**Table 4: The Results of the Univariate Test Assessing the Impact of Soft Information on the Amount Offered for Mega Banks and the Results from the Probit Regressions that represent the Impact of Soft Information on the Amount Offered**

<b>Mega Banks</b>							
	<b>High Score</b>	<b>Low Score</b>	<b>Ho: <math>\mu_1 - \mu_2 = 0</math></b>				
<b>Total Rate</b>	<b><math>\mu_1</math></b>	<b><math>\mu_2</math></b>	<b>Ha: <math>\mu_1 - \mu_2 \neq 0</math></b>	<b>Ha: <math>\mu_1 - \mu_2 &gt; 0</math></b>	<b>Ha: <math>\mu_1 - \mu_2 &lt; 0</math></b>		
	<b>(2.844)</b>	<b>(-0.171)</b>				<b>p-value</b>	
Amount Offered	66.67%	100.00%	33.30%	0.116		0.942	0.058*
No. observations		3	3				

<b>Regional Banks (Tier I)</b>					
	<b>Total Rate</b>	<b><math>\alpha</math></b>	<b><math>\beta_{\text{soft}}</math></b>	<b>Pseudo R<sup>2</sup></b>	<b>No. observations</b>
		<b>(S.D.)</b>	<b>(S.D.)</b>		
Amount Offered	65.91%	0.3667	0.3016	0.033	44
		(.2018)	(.2095)		

<b>Regional Banks (Tier II)</b>					
	<b>Total Rate</b>	<b><math>\alpha</math></b>	<b><math>\beta_{\text{soft}}</math></b>	<b>Pseudo R<sup>2</sup></b>	<b>No. observations</b>
		<b>(S.D.)</b>	<b>(S.D.)</b>		
Amount Offered	64.71%	0.3463	0.3611*	0.064	34
		(.2311)	(.2082)		

<b>Cooperative Banks</b>					
	<b>Total Rate</b>	<b><math>\alpha</math></b>	<b><math>\beta_{\text{soft}}</math></b>	<b>Pseudo R<sup>2</sup></b>	<b>No. observations</b>
		<b>(S.D.)</b>	<b>(S.D.)</b>		
Amount Offered	54.70%	0.1201	0.2662***	0.027	234
		(.0832)	(.0926)		

<b>Credit Unions</b>					
	<b>Total Rate</b>	<b><math>\alpha</math></b>	<b><math>\beta_{\text{soft}}</math></b>	<b>Pseudo R<sup>2</sup></b>	<b>No. observations</b>
		<b>(S.D.)</b>	<b>(S.D.)</b>		
Amount Offered	51.09%	0.1181	0.3410**	0.045	92
		(.1422)	(.1484)		

**Table 5: The Effects of an Organizational Hierarchical Structure on the Amount Offered  
Mega Banks**

	Total Rate	$\alpha$ (S.D.)	$\beta_{\text{soft}}$ (S.D.)	$\beta_{\text{logasset}}$ (S.D.)	$\beta_{\text{soft} \times \text{sizedummy}}$ (S.D.)	Pseudo R2	No. observations
Amount Offered	66.7%	n.a.	n.a.	n.a.	n.a.	n.a.	6

**Regional Banks (Tier I)**

	Total Rate	$\alpha$ (S.D.)	$\beta_{\text{soft}}$ (S.D.)	$\beta_{\text{logasset}}$ (S.D.)	$\beta_{\text{soft} \times \text{sizedummy}}$ (S.D.)	Pseudo R2	No. observations
Amount Offered	65.9%	0.3061 (3.7307)	0.2159 (.2825)	0.0016 (.2515)	0.2647 (.4118254)	0.041	44

**Regional Banks (Tier II)**

	Total Rate	$\alpha$ (S.D.)	$\beta_{\text{soft}}$ (S.D.)	$\beta_{\text{logasset}}$ (S.D.)	$\beta_{\text{soft} \times \text{sizedummy}}$ (S.D.)	Pseudo R2	No. observations
Amount Offered	64.7%	-2.7842 (4.8147)	0.2234 (.4182)	0.2309 (.3523)	0.2084 (.4940)	0.079	34

**Cooperative Banks**

	Total Rate	$\alpha$ (S.D.)	$\beta_{\text{soft}}$ (S.D.)	$\beta_{\text{logasset}}$ (S.D.)	$\beta_{\text{soft} \times \text{sizedummy}}$ (S.D.)	Pseudo R2	No. observations
Amount Offered	54.70%	-2.1365* (1.1182)	0.3514** (.1404)	0.1815** (.0894)	-0.1917 (.1860)	0.043	234

**Credit Unions**

	Total Rate	$\alpha$ (S.D.)	$\beta_{\text{soft}}$ (S.D.)	$\beta_{\text{logasset}}$ (S.D.)	$\beta_{\text{soft} \times \text{sizedummy}}$ (S.D.)	Pseudo R2	No. observations
Amount Offered	51.09%	0.2545 (1.5832)	0.4199** (.2128)	0.0124 (.1405)	-0.1638 (.2968)	0.048	92



**Table 6: The Effects of a Standardized Soft Information List on the Amount Offered  
City Banks**

	Total Rate	$\alpha$ (S.D.)	$\beta_{\text{soft}}$ (S.D.)	$\beta_{\text{standard}}$ (S.D.)	$\beta_{\text{soft} \times \text{standard}}$ (S.D.)	<i>Pseudo R</i> <sup>2</sup>	No. observations
Amount Offered	66.67%	n.a.	n.a.	n.a.	n.a.	n.a.	6

<b>Regional Banks (Tier I)</b>							
	Total Rate	$\alpha$ (S.D.)	$\beta_{\text{soft}}$ (S.D.)	$\beta_{\text{standard}}$ (S.D.)	$\beta_{\text{soft} \times \text{standard}}$ (S.D.)	<i>Pseudo R</i> <sup>2</sup>	No. observations
Amount Offered	65.91%	0.8911** (.8911)	0.8969*** (.3315)	-0.7724* (.4508)	-0.7552* (.4316)	0.116	44

<b>Regional Banks (Tier II)</b>							
	Total Rate	$\alpha$ (S.D.)	$\beta_{\text{soft}}$ (S.D.)	$\beta_{\text{standard}}$ (S.D.)	$\beta_{\text{soft} \times \text{standard}}$ (S.D.)	<i>Pseudo R</i> <sup>2</sup>	No. observations
Amount Offered	64.71%	0.3234 (.3237)	-0.1288 (.3273)	0.0198 (.4776)	0.8372* (.4508)	0.1317	34

<b>Cooperative Banks</b>							
	Total Rate	$\alpha$ (S.D.)	$\beta_{\text{soft}}$ (S.D.)	$\beta_{\text{standard}}$ (S.D.)	$\beta_{\text{soft} \times \text{standard}}$ (S.D.)	<i>Pseudo R</i> <sup>2</sup>	No. observations
Amount Offered	54.70%	0.0477 (.1217)	0.2195 (.1379)	0.1426 (.1686)	0.0597 (.1883)	0.030	234

<b>Credit Unions</b>							
	Total Rate	$\alpha$ (S.D.)	$\beta_{\text{soft}}$ (S.D.)	$\beta_{\text{standard}}$ (S.D.)	$\beta_{\text{soft} \times \text{standard}}$ (S.D.)	<i>Pseudo R</i> <sup>2</sup>	No. observations
Amount Offered	51.09%	0.1768 (.1897)	0.4301** (.2154)	-0.1121 (.2846)	-0.1565 (.2874)	0.048	92

**Table7 : The effects of Systematic soft information management on the Amount Offered**  
**City Banks**

	Total Rate	$\alpha$ (S.D.)	$\beta_{\text{soft}}$ (S.D.)	$\beta_{\text{systematic}}$ (S.D.)	$\beta_{\text{soft} \times \text{systematic}}$ (S.D.)	Pseudo $R^2$	No. observations
Amount Offered	66.67%	n.a.	n.a.	n.a.	n.a.	n.a.	6

**Regional Banks (Tier I)**

	Total Rate	$\alpha$ (S.D.)	$\beta_{\text{soft}}$ (S.D.)	$\beta_{\text{systematic}}$ (S.D.)	$\beta_{\text{soft} \times \text{systematic}}$ (S.D.)	Pseudo $R^2$	No. observations
Amount Offered	65.91%	-0.2667 (.5196)	2.0254** (.8161)	0.8320 (.5748)	-2.0914** (.8562)	0.174	44

**Regional Banks (Tier II)**

	Total Rate	$\alpha$ (S.D.)	$\beta_{\text{soft}}$ (S.D.)	$\beta_{\text{systematic}}$ (S.D.)	$\beta_{\text{soft} \times \text{standard}}$ (S.D.)	Pseudo $R^2$	No. observations
Amount Offered	64.71%	0.2727 (.3422)	0.1784 (.2811)	0.2006 (.4875)	0.4232 (.4565)	0.088	34

**Cooperative Banks**

	Total Rate	$\alpha$ (S.D.)	$\beta_{\text{soft}}$ (S.D.)	$\beta_{\text{systematic}}$ (S.D.)	$\beta_{\text{soft} \times \text{systematic}}$ (S.D.)	Pseudo $R^2$	No. observations
Amount Offered	54.70%	0.0201 (.1180)	0.2255* (.1268)	0.1950 (.1676)	0.0512 (.1882)	0.031	234

**Credit Unions**

	Total Rate	$\alpha$ (S.D.)	$\beta_{\text{soft}}$ (S.D.)	$\beta_{\text{systematic}}$ (S.D.)	$\beta_{\text{soft} \times \text{systematic}}$ (S.D.)	Pseudo $R^2$	No. observations
Amount Offered	51.09%	0.1183 (.1741)	0.3458* (.1984)	-0.0006 (.3018)	-0.0116 (.3018)	0.045	92