

## **International Syndicated Loans and Japanese Regional Banks: Comparison Between the First and Second Internationalization**

Masaki Yamaguchi  
Yamagata University

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### **ABSTRACT**

This paper investigates regional bank participation in international syndicated loans, which attract significant attention from the banking industry. This topic has a remarkable importance for regional banks because overseas activities are related to their growth strategies. We pose two questions to illustrate the internationalization of regional banks. The first question explores differences in loan transactions between the first internationalization during 1992-1997 and the second internationalization during 2009-2014. The second question seeks to identify the types of loan transactions preferred by regional banks. We answer these questions by using a comparative analysis and Probit analysis of 23,387 transaction data. Activities of regional banks in the first period overwhelm that of the second period. The first internationalization was characterized by a broad base of participant banks. Estimation results demonstrated similarities in the lending behavior of regional banks between the two periods. Smaller loan amounts, larger syndicates, and loan purposes for ordinary business facilitate regional bank participation in syndicated loans. These preferences reflect limited risk-taking capability and a weaker screening technique by regional banks. We also observe differences in currency denomination, and the Japanese yen increases its presence in the second period.

JEL Classification: F34, G21

Keywords: Regional banks, Internationalization, Syndicated loans

### **1. INTRODUCTION**

The overseas activities of regional banks attract significant interest from the banking industry because this topic is important to their growth strategies<sup>1</sup>. Regional banks cannot expect an increase in loan demand over the long run due to the diminishing

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<sup>1</sup> There are 64 regional banks and 41 second-tier regional banks in Japan as of April 2014. Here, the term regional banks includes both of them.

regional economy. Although mergers between regional banks are progressing<sup>2</sup>, this is not a perpetual prescription because cost reduction effects brought by the merger are tentative and assumed to be small for the merger that crosses prefectural borders.

In such conditions, overseas activities are among possible ways to diversify the revenue sources of regional banks and strengthen their revenue base. Recent overseas activities mainly include the establishment of representative offices, business cooperation with foreign banks, and international syndicated loans. The former two businesses have characteristics of a relationship-based transaction and do not contribute to regional bank profit directly. Whereas, we can expect that international syndicated loans help regional banks accumulate overseas assets and earn higher interest margins. International syndicated loans have great significance in the growth strategies of regional banks. Hence, we investigate regional bank participation in international syndicated loans.

We pose two questions to detect the lending behavior of regional banks in international syndicated loan markets. The first investigates differences between two periods: during 1992-1997 and 2009-2014. Because regional banks experienced two internationalizations of their activities in those periods, a comparison between the two periods can present a current situation of internationalization. The second seeks to identify the types of loan transactions preferred by regional banks. We use detailed data of loan transactions and statistical methods to answer these questions.

The remainder of this paper is structured as follows. Next, we overview the internationalization of regional banks by detecting differences in overseas activities, and point out the significance of international syndicated loans for regional banks. Section 3 surveys the literature related to syndicated loans mainly from the perspective of their employed methods of analysis and explains how this study differs from existing studies. Section 4 explains the data and conducts a comparative analysis in order to determine differences in the lending behavior of regional banks between the first and second period. Section 5 will identify the factors that affect the probability of regional bank participation by using the Probit model and presents and interprets the findings. Section 6 summarizes the results of our investigation and explains their implications for future studies.

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<sup>2</sup> According to media reports, Yokohama Bank and Higashi-nippon Bank have made progress in the negotiation to establish a joint financial holding company in the spring of 2016. Higo Bank and Kagoshima Bank agreed to the management integration starting in October 2015.

## 2. INTERNATIONALIZATION OF REGIONAL BANKS

There are two periods when regional banks internationalize their activities. We define overseas expansion of regional banks in the 1990s as the first internationalization. The second internationalization started in the mid-2000s. This definition is based on the establishment of overseas offices and overseas lending. In these two periods of internationalization, regional banks penetrate international financial markets by establishing overseas branches and subsidiaries and participating in overseas lending and investments.

We can observe three major differences in overseas activities between the two periods. First, entry modes to overseas markets are different. The major entry mode in the first period is establishment of the branch. Regional banks established their branches mainly in New York, London, and Hong Kong, which are international financial markets. The number of branches reached a peak of 67 branches in 1995<sup>3</sup>. Regional banks set up 26 overseas subsidiaries by 1993, mainly in Hong Kong and Brussels; whereas, the main entry mode in the second period is a representative office. Geographical distribution of offices is different from that of the first internationalization. Regional banks set up representative offices after another, mainly in Shanghai, Bangkok, and Singapore. However, representative offices cannot conduct business activities that produce profits. Their main activities are providing local information such as taxation and labor affairs, and organizing business meetings to match customers.

Second, regional banks entered into business cooperation with foreign banks that are located mainly in Asia. This is a new trend in the second period and a related topic to entry mode by a representative office. We have already found well over 100 instances of business cooperation since the mid-2000s. Business cooperation aims to support overseas expansion of customer companies, especially small-medium sized enterprises. Hence, this is positioned as the extension of a relationship transaction. Business cooperation includes a provision of financial services through the network of foreign banks, deposit

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<sup>3</sup> Yokohama Bank held the largest number of overseas offices totaling 16: 7 representative offices, 5 branches, and 4 subsidiaries. Sixty-four regional banks established at least one overseas office in 1995.

transactions, trade financing, and standby credit. In overseas markets, regional banks support their customers by way of foreign banks as they only have representative offices.

Third, international syndicated loans have a great importance because it is a possible pillar of profit-earning for regional banks. According to media reports, regional banks have started to participate in international syndicated loans with higher interest rate margins. For example, Japanese banks signed a loan agreement of 500 million United States dollars for a highway construction project of Vietnam in September 2014. The syndicate of this loan transaction consists of 17 Japanese banks, of which 14 are regional banks such as Yokohama Bank and Chiba Bank. Iyo Bank, San-in Godo Bank, and Ikeda-Sensyu Bank will extend a project financing loan for the first time<sup>4</sup>. Regional banks seek a way to boost their revenues by overseas lending. Hyakugo Bank announced its plan to increase its balance of foreign currency loans by 55 billion yen until the fiscal year 2015 through international syndicated loans and other initiatives.

Although international syndicated loans directly contribute to the profits of regional banks and are significant to their growth strategies, media reports do not present a complete picture of regional bank participation. Furthermore, we do not know the features of regional bank participation in the second period. Hence, this study aims to objectively highlight this topic by statistical methods.

### 3. LITERATURE REVIEW

This section aims to confirm the academic position and features of this study by overviewing related studies. Empirical studies have investigated the lending behavior of banks in syndicated loan markets since the 1990s. We can categorize previous studies into three broad types from the viewpoints of research strategies and analytical methods.

The first type examines influencing factors on the decision to set up a syndicate in extending a loan. Dennis and Mullineaux (2000), who cover transactions in the US, fall under the first category and they investigated how information asymmetry, agency problems, and regulations affect to syndicate a loan. Godlewski and Weil (2008) also

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<sup>4</sup> Furthermore, Japanese megabanks promote the sale of loans to regional banks in the secondary market. For example, Sumitomo Mitsui Banking Corporation started selling the international syndicated loans to capture regional bank demand.

examined the determinants in the decision of banks to syndicate a loan through a sample of loan facilities from 50 emerging countries. They showed the significant role of loan characteristics and of financial development, banking regulation, and legal institutions, in the decision. This type of analysis uses a binary-choice model in which the explained variable is a dummy variable that takes a value of one if a loan is syndicated.

The second type of analysis examines syndicate structure. Syndicate structure is one of the perspectives that captures bank behavior. The size of the syndicate, which is measured by the number of participant banks, stands for syndicate structure. This type of study investigates the factors that affect syndicate structure. Lee and Mullineaux (2004) studied syndicated loans in the US and found that syndicates are smaller and more concentrated when there is little information about the borrower. Sufi (2007), who also studies cases in the US, explored how information asymmetry between lenders and borrowers influences syndicate structure and which lenders become syndicate members. These studies used the count data model to handle data so that the number of participant banks is a discrete and non-negative integer. Especially, the Poisson regression model, which is the basic model to deal with count data, is employed<sup>5</sup>.

The third type of analysis studies differences in the lending behavior depending on the types of banks involved. Many studies paid attention to decisions on spread, which is an additive interest rate, in detecting lending behavior. For example, Haselmann and Wachtel (2011) examine foreign banks' motives in participating in cross-border deals in 25 European countries. That is, they tried to identify differences between local and foreign banks. The usual argument is that foreign banks are at a disadvantage compared to their domestic counterparts because they lack soft information and thus tend to lend to firms that are more transparent. However, the empirical results demonstrated that this relationship only holds true in relatively small financial systems and that foreign banks grant loans to riskier companies and projects in countries with a developed financial market. This type of analysis use an estimation equation in which the explained variable is spread and the explanatory variables are loan terms as well as dummy variables representing bank types.

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<sup>5</sup> Poisson regression model requires a strong assumption that variance equals mean. If this assumption does not satisfy, a negative binomial regression model should be used.

The overview of the related studies determines the position and features of this study in the research field of syndicated loans. This study is close to the first type of analysis in the employed analytical method because it aims to investigate the characteristics of syndicated loans involving regional banks using a binary-choice model. However, it is quite different from existing studies from the perspective of the object of investigation: regional banks. The research scope of previous studies does not cover the loan participation of regional banks because they assume the main participants of international syndicated loans to be global banks. This new trend is not only worth studying by academic researchers, but is also significant for the banking industry to identify new opportunities in response to highly competitive domestic markets.

#### **4. COMPARATIVE ANALYSIS**

##### **4.1 Data**

This section overviews regional bank participation to determine the differences in loan transactions between the first and second internationalization. Our overview requires detailed data that includes loan terms such as loan amount, and borrower characteristics. We obtain the required information from the *DealScan* database, provided by Thomson Reuters LPC. This database is the world's largest database specializing in loan transactions and contains information on over 150,000 loan transactions covering Asia, North America, South America and Europe. Many related studies, including Haselmann and Wachtel (2011) and Godlewski and Weil (2008), employed this database.

The sample population for this study is syndicated loans that originated or involved megabanks and former major city banks<sup>6</sup>. The reason why we choose these transactions is that regional banks, in most cases, participate in syndicated loans through megabanks. In general, regional banks have less expertise on international business and they have few opportunities to gain experience in syndicated loans. This makes most regional banks dependent on megabanks with regard to their participation in syndicated loans. Hence, we investigate loan transactions involving megabanks.

We divide the research period into two periods: the first and second internationalization. The period from 1992 to 1997 stands for the first internationalization, and the period

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<sup>6</sup> There were 13 major city banks as of the end of 1989. Today, those banks have been consolidated to four major city banks due to mergers and failures. Here, we call Mizuho Bank, Sumitomo Mitsui Bank, Bank of Tokyo-Mitsubishi UFJ as megabanks, excluding Resona Bank.

from 2009 and 2014 stands for the second internationalization. The first and second period contain 11,822 transactions and 11,565 transactions, respectively.

During both internationalization periods, Japanese megabanks enhance their existence in the international syndicated loan market, and top the list in the arranger ranking. However, we can point out two differences in the competitive environment. First, the Western banks, competitors to Japanese megabanks, suffer from subprime loan and European sovereign debt crises. Meanwhile, megabanks have increased their presence during the second period<sup>7</sup>. This favorable competitive environment did not occur in the first period. Second, the first period concluded with the outbreak of the Asian currency crisis. In contrast, the second period started after the global financial crisis of 2009 and is still going on. We turn the spotlight on the lending behavior of regional banks in this competitive environment.

#### 4.2 Overview

We investigate differences in the internationalization of regional banks between two periods by conducting comparisons from four perspectives. First, regional banks' participation in syndicated loans presents a large gap in terms of the number of deals involving regional banks, although the sample number is similar between the first and second period. The number of transactions involving regional banks in the first period, 355 deals, is almost twice those in the second period. Regional banks participated in international syndicated loans more actively in the first period. The number of regional banks participating, 635 banks, also supports this notion. Regional banks' participation in the first period was more than double those in the second period. Furthermore, the first period had a broad base of participant banks: regional banks participating in syndicated loans totaled 48 banks. These data demonstrate that regional banks were much hungrier for international syndicated loans in the first period.

Table 1. Regional bank participation

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<sup>7</sup> In the 2013 arranger ranking of international syndicated loans, Bank of Tokyo-Mitsubishi Bank ranked fourth, Mizuho Bank and Sumitomo Mitsui Bank ranked eighth and ninth, respectively (Thomson Reuters, Global Syndicated Loans Review, January 2014).

Year	Number of Deals	Number of regional banks participated (A)	Number of regional banks - participated deals (B)	Number of regional banks	Year	Number of Deals	Number of regional banks participated (A)	Number of regional banks - participated deals (B)	Number of regional banks
1992	723	34	66		2009	930	21	30	
1993	1,214	44	100		2010	1,696	29	29	
1994	1,768	63	132		2011	2,387	43	55	
1995	2,124	83	137	48	2012	1,804	26	41	39
1996	2,813	86	136		2013	2,389	41	65	
1997	3,180	45	64		2014	2,359	43	139	
Total	11,822	355	635		Total	11,565	203	359	

Source: Author's calculation based on *DealScan*

Second, Table 2 presents a remarkable difference in borrower nationalities between the two periods. In the first period, borrowers in Asian countries such as South Korea and Thailand showed their presence. Eight out of ten are Asian countries in the rankings. In contrast to the first period, the second period Asian borrowers decrease their presence and their transactions represent a radical drop to less than half of those in the first period. Although, the loans to the US borrowers reach first place during the second period, there are 85 borrowers from Asian countries, including South Korea, China, India, Hong Kong, Thailand, Indonesia, Singapore, Vietnam, Malaysia, and the Philippines, which in total dominate the number of borrowers from the US.

This result presents the hypothesis that regional banks prefer loans to Asian borrowers. This is a rational prediction because regional banks have difficulty evaluating the risk of overseas borrowers due to weaker screening techniques and less experience. Hence, geographical proximity and the familiar name of Asian borrowers enhance the possibility of regional bank participation by reducing information asymmetry and mitigating the difficulty related to risk assessment. We will test this hypothesis in the next section.

Table 2. Borrower nationalities

1992 - 1997		2009 - 2014	
Borrower country	Number of Deals	Borrower country	Number of Deals
Korea	75 USA		64
USA	69 Korea		17
Thailand	57 India		16
HK	46 Indonesia		13
China	33 China		12
Indonesia	28 Panama		11
Taiwan	8 HK		10
India	6 Thailand		9
Singapore	5 Singapore		8
UK	5 Australia		7

Source: Author's calculation based on *DealScan*

The third examined point is the currency denomination of syndicated loans. Table 3 demonstrates definite differences between the first and second internationalization. United States dollars (USD) overwhelm other currencies in the first period. In contrast, the share of USD decrease to less than 60% and Japanese yen (JPY) increase its presence in the second period. This is a remarkable difference in the composition of currencies between the two periods.

This result indicates that USD funding was easy for even regional banks in the first period. In this period, Japan premium problem have not yet occurred, which represents higher interest rates than those applied to financial institutions in other countries. This funding environment in overseas financial markets enhanced regional bank participation in loans denominated in USD. However, the lending behavior of regional banks changed in the second period. Loan transactions denominated in JPY have increased dramatically. This preference of regional banks can be explained by funding conditions of the USD. Generally speaking, regional banks have difficulty with USD funding because they do not accept abundant USD deposit and it is difficult for regional banks to borrow USD without a large spread. This change in lending behavior presents a hypothesis that the denomination in JPY facilitates regional bank participation in syndicated loans in the second internationalization<sup>8</sup>.

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<sup>8</sup> Note that the Hong Kong dollar demonstrated its presence and ranked in second position in the first period. This presence is explained by the number of borrowers located in Hong Kong. See table 2.

Table 3. Currency denominations

Currency	1992 - 1997		2009 - 2014		
	Number of Deals	Percentage	Currency	Number of Deals	
USD	318	89.6	USD	119	58.6
HKD	22	6.2	JPY	64	31.5
JPY	10	2.8	CNY	5	2.5
GBP	3	0.8	HKD	4	2.0
Multi	2	0.6	US Equiv	4	2.0

Source: Author's calculation based on *DealScan*

The fourth point of the analysis is loan purposes. Table 4 presents a similar feature of loans involving regional banks between the two periods. The composition of the top three purposes: corporate purposes, working capital, and debt repayment, is the same for both periods. These three loan purposes account for 76.6% and 76.8% in the first and second period, respectively. These purposes share the same nature of short-term loans. Meanwhile, project financing, aircraft financing, ship financing, and capital expenditure have the nature of long maturities. The share of these loan purposes are 13% and 18.7% in the first and second period, respectively. The composition of loan purposes demonstrates almost the same feature in both periods. These results predict that regional banks prefer syndicated loans of shorter maturity. In general, long-term loans have a greater risk because it is difficult to forecast the business performance of borrowers and economic conditions. Regional banks may therefore tend to avoid taking on such loans.

The last investigated point is borrower industry. The financial services industry stands out as a borrower industry of loan transactions involving regional banks. Its share is 36.3% and 36.9% in the first and second period, respectively. The risk profile of loans to financial services industries differs from that of loans to other industries due to different loan purposes. Financial institutions borrow funds to provide loans, whereas the loans of non-financial companies are used for real purposes, such as working capital and capital expenditures. This result indicates that loans to financial services enhance the probability of regional bank participation.

Table 4. Loan purposes

1992 - 1997			2009 - 2014		
Purpose	Number of Deals	Percentage	Purpose	Number of Deals	Percentage
Corp. purposes	196	55.2	Corp.purposes	84	41.4
Debt Repay.	49	13.8	Working capital	50	24.6
Working capital	27	7.6	Debt Repay.	22	10.8
Project finance	21	5.9	Ship finance	15	7.4
CP backup	10	2.8	Capital expend.	14	6.9
Aircraft finance	10	2.8	Project finance	8	3.9
Recap.	7	2.0	CP backup	3	1.5
Ship finance	7	2.0	Takeover	3	1.5
Capital expend.	7	2.0	Equip. Purch.	2	1.0
Undisclosed	6	1.7	Aircraft	1	0.5

Source: Author's calculation based on *DealScan*

#### 4.3 Comparative Analysis

We have already presented several hypothesis with regard to differences in regional bank participation between the two periods. First, we validate these hypotheses by comparing loan transactions involving regional banks. Detection of differences in loan transactions reveals features of the lending behavior in both periods. We divide variables to be compared into three categories. The first includes loan terms and syndicate structure.

**AMOUNT:** Size of syndicated loan converted to millions of USD

**MATURITY:** Period of syndicated loan, represented in years

**NUMBER:** Size of syndicate measured by number of participant banks

**JPY:** A dummy variable equal to one if the syndicated loan is denominated in Japanese yen and zero otherwise

**USD:** A dummy variable equal to one if the syndicated loan is denominated in US dollars and zero otherwise

The second category consists of two variables about loan purposes: *WORK* and *CORP*, representing the working capital and corporate purposes. These dummy variables take values of one if the loan purpose falls into their respective categories. These purposes rank in the top three in the composition of loan purposes. Furthermore, Table 4 demonstrates relatively large differences in these purposes between two periods. The

share of *CORP* is 55.2% and 41.4% in the first and second period, respectively. *WORK* account for 7.6% and 24.6% in the first and second period, respectively.

The third category of variables includes the following proxies for borrower credit risk and characteristics.

*RATE*: A dummy variable taking a value of one if a borrower has a credit rating

*GUARANTEE*: A dummy variable indicating whether a loan has a guarantor; if a loan is guaranteed, this variable takes a value of one

*ASIA*: A dummy variable showing whether the borrower is from an Asian country; if the borrower is an Asian entity, this variable takes a value of one

*FINANCIAL*: A dummy variable equal to one if borrower industry is the financial services industry and zero otherwise

We use the Mann-Whitney U test for a comparative analysis with regard to continuous variables because statistical tests found variation differences in these variables between two periods<sup>9</sup>. The Mann-Whitney test is a famous non-parametric test to compare means between two independent groups. We validate the null hypothesis; there are no mean differences in continuous variables between the first and second periods. Whereas, we employ  $\chi^2$  test with regard to dummy variables because they are discrete. The null hypothesis to be tested is that there is no difference in the ratio of dummy variables between two periods.

Table 5. Comparative analysis: Continuous variables

	1992 - 1997		2009 - 2014		U-test
	Means	Sample	Means	Sample	
<i>AMOUNT</i> (millions)	335	355	344	203	0.00
<i>MATURITY</i> (years)	4.28	344	5.02	201	0.38
<i>NUMBER</i>	21.2	355	11.0	203	0.00

Table 5 demonstrates comparative results about continuous variables. The result of *AMOUNT* presents statistically significant differences as observed by the p-value of the U test. However, this difference is not economically significant because we find a very

<sup>9</sup> We conducted F test to detect the hypothesis that variances are equal between two periods with regard to continuous variables. Test results rejected the null hypothesis.

small difference in average loan amounts. Next, a comparative analysis about *MATURITY* does not show a significant difference between the two periods. We confirm similar features with regard to loan amounts and the loan maturities of transactions involving regional banks. In contrast, a remarkable difference in *NUMBER* attracts our attention. The average number of participant banks in a syndicate in the first period is much greater than that of the second period. This result is consistent with a situation presented in Table 1, which shows a broader base of regional bank participation. The bigger size of syndications included regional banks and supported activities of regional banks in international syndicated loan markets.

Table 6 presents clear-cut differences in currency denominations between the two periods. *JPY* demonstrates a remarkable increase in the second period, and the difference between the two periods is statistically and economically significant<sup>10</sup>. In contrast, we find a large decrease of *USD* in the currency composition. This is also a significant change in the second period. The changes in currency denomination indicate that regional banks changed their preference about loan currencies. However, this result cannot determine whether *JPY* facilitates regional bank participation in the second period. Hence, we need another statistical test to confirm this point.

Table 6. Comparative analysis: Dummy variables

	1992 - 1997	2009 - 2014	$\chi^2$ test
<i>JPY</i>	2.8%	31.5%	0.00
<i>USD</i>	89.6%	58.6%	0.00
<i>CORP.</i>	55.2%	41.4%	0.00
<i>WORK</i>	7.6%	24.6%	0.00
<i>RATE</i>	21.1%	49.8%	0.00
<i>GUARANTEE</i>	17.5%	14.3%	0.32
<i>ASIA</i>	73.8%	44.8%	0.00
<i>FINANCIAL</i>	36.3%	36.9%	0.88

Next, comparative results about loan purposes present definite differences between the two periods. The share of *CORP* decreases more than 10%; meanwhile, the share of *WORK* greatly increases in the second period. Great shares of these two variables indicate that regional banks prefer loan transactions for these loan purposes, although

<sup>10</sup> We cannot find a definite relationship between borrowers of loans denominated in Japanese yen and borrower nationality.

we cannot validate this prediction by a comparative analysis. We have to further investigate by using another method.

Moreover, we find similarities and differences in variables, which stand for borrower characteristics between the first and second period. *GUARANTEE* and *FINANCIAL* suggest that the lending behavior of regional banks does not change in these points, as observed in Table 6. Whereas, we can confirm remarkable changes in *RATE* and *ASIA*. The share of *RATE*, representing the share of borrowers acquiring a credit rating, more than doubles. This may reflect borrower efforts to get credibility and funds. The share of Asian borrowers decreases dramatically mainly due to decreasing loan transactions of South Korea and Thailand<sup>11</sup>. However, the comparative analysis does not produce a definite answer about whether borrower characteristics have effects on the probability of regional bank participation in syndicated loans.

We have confirmed that there are several differences in the features of loan transactions between two periods: syndicate size, currency denomination, loan purpose, and borrower characteristics. We further need to investigate changes in the lending behavior and the effects of variables on regional bank participation while simultaneously controlling several variables.

## 5. REGRESSION ANALYSIS

### 5.1 Methodology

We investigate lending behavior by detecting the effects of variables on the probability of regional banks participation. Note that we calculate the probability as a ratio of regional bank participation to loan transactions, including Japanese banks. In general, regional banks participate in syndicated loans through megabanks. We investigate what transactions regional banks participate in among the many syndicated loans that megabanks arrange or participate. Specifically, we employ the following estimation equation which uses the same variables as the previous section. We estimate the following equation with regard to the first and second period, respectively.

$$\text{PARTICIPATION} = F(\text{Loan terms, Loan purposes, Borrower characteristics})$$

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<sup>11</sup> As shown in Table 2, the number of borrowers in countries hit severely by the Asian currency crisis decreased dramatically.

The explained variable, *PARTICIPATION*, is a dummy variable taking a value of one if regional banks participate in a syndicated loan. Explained variables are divided into three categories shown in the right hand member of the equation.

The first loan term variable is the amount and we use its log value (*LAMOUNT*) as the explanatory variable in the estimation equation. We do not expect a different effect of *LAMOUNT* between two periods because a comparative analysis does not present an economically significant difference. Furthermore, we forecast that the coefficient of *LAMOUNT* is negative. That is, regional banks prefer loan transactions of smaller amounts. Compared to megabanks, the asset size of regional banks is smaller and this indicates smaller risk taking capability<sup>12</sup>.

The second loan term variable is maturity. We can expect that there is not a difference effecting *MATURITY* on the probability of regional bank participation between two periods. This is because a comparative analysis does not present a significant result. Meanwhile, we expect the coefficient of *MATURITY* to be negative. This is because a longer maturity increases credit risk due to the difficulty of predicting the future business performance of the borrower. Hence, shorter maturities are assumed to have a positive effect on regional bank participation in loan transactions.

The third variable, *NUMBER*, captures syndicate structure through the number of participant banks. The comparative result shown in Figure 5 indicates that loan transactions in the first period have a greater number of participants. Thus, we expect a different effect of *NUMBER* on regional bank participation. Furthermore, we forecast that the coefficient of *NUMBER* is positive. This is because, the greater the size of a syndicate, the more regional banks participate in a transaction. The last variable is related to currency denomination: *JPY* and *USD*. We can expect different effects of these variables on regional bank participation due to significant differences between two periods demonstrated in Figure 5. However, it is difficult to forecast the sign of coefficients of the currency denomination.

The second category of explanatory variables is loan purposes that contain *CORP* and *WORK*. Comparative results demonstrate statistically significant differences in these

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<sup>12</sup> This preference is another reason that regional banks avoid concentration risk in their portfolio management.

two variables, and we have a chance to observe different lending behavior about loan purposes between the two periods. Furthermore, greater shares in the composition of loan purposes indicate that coefficients of *CORP* and *WORK* are positive, especially for the second period.

The third group of explanatory variables, which capture borrower characteristics, consists of four variables. We can expect different lending behavior about *RATE* because the share of the second period doubles compared to that of the first period. Furthermore, we have a possibility that *RATE* has a positive sign especially for the second period. In contrast, we cannot expect different behavior in *GUARANTEE* due to a comparative result. The low share of this variable makes forecasting the sign of the coefficient difficult. We also cannot forecast the difference in the lending behavior with regard to *FINANCIAL* between the two periods. However, the share of this variable indicates that the sign of the coefficient is positive. The effect of *ASIA* is expected to be different because of a change in share. We can forecast that *ASIA* has a positive coefficient judging from the relatively higher share.

## 5.2 Results

Table 7 (a) and (b) present estimation results in the first and second period, respectively. First, the coefficient of *LAMOUNT* is negative in both periods as we expected. These results indicate that regional banks have a preference to loan transactions of smaller amounts. This trend may be attributed to the smaller risk-taking capability of regional banks due to their smaller asset size.

Next, we cannot find a significant result for *MATURITY*. Only model 3 in Table 7 (a) and model 5 in Table 7 (b) produce significant results, and the sign of the coefficient is not stable as we find both negative and positive signs. Hence, we cannot determine the effect of *MATURITY* on regional bank participation. *NUMBER* has a positive and statistically significant coefficient for both periods. Although a comparative analysis demonstrates great difference in *NUMBER* between the first and second period, we find the same effect on regional bank participation for both periods. This indicates that the large syndicate has a higher possibility that it will include regional banks.

Table 7 (a) Estimation results: 1992 – 1997

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>LAOMOUNT</i>	-0.224** (0.025)	-0.218** (0.026)	-0.085** (0.030)	-0.088** (0.031)	-0.083** (0.031)
<i>MATURITY</i>	-0.015 (0.010)	-0.016 (0.010)	-0.021* (0.010)	-0.015 (0.010)	-0.017 (0.010)
<i>NUMBER</i>	0.042** (0.002)	0.042** (0.002)	0.038** (0.002)	0.038** (0.002)	0.038** (0.002)
<i>JPY</i>	0.560** (0.201)	0.561** (0.200)	0.192 (0.204)	0.183 (0.204)	
<i>USD</i>					0.214* (0.092)
<i>CORP.</i>	0.376** (0.053)	0.381** (0.053)	0.248** (0.058)	0.206** (0.060)	0.195** (0.060)
<i>RATE</i>	-0.293** (0.067)	-0.272** (0.069)	0.113 (0.083)	0.126 (0.083)	0.115 (0.083)
<i>GUARANTOR</i>		0.135 (0.072)	-0.255** (0.075)		
<i>ASIA</i>			1.181** (0.079)	1.089** (0.077)	1.126** (0.078)
<i>FINANCIAL</i>				0.304** (0.064)	0.299** (0.064)
<i>CONST</i>	1.575** (0.448)	1.444** (0.455)	-1.519** (0.551)	-1.536** (0.554)	-1.828** (0.572)
Sample	10587	10587	10587	10587	10587
Pseudo <i>R</i> <sup>2</sup>	0.119	0.120	0.211	0.214	0.216

\*, \*\* indicate that parameters are statistically significant at confidence Level of 95% and 99%, respectively.

The estimation results for *JPY* are different between the two periods. The coefficients of *JPY* are unstable in the first period because we observe both significant and insignificant results. In contrast, we find the definite effect of *JPY* on regional bank participation in the second period. This result indicates that regional banks prefer loan transactions in Japanese yen. This preference may be explained by the funding constraint of regional banks. Furthermore, this result reflects a funding environment in which the funding of US dollars was very easy in the first period.

We find statistically significant results of *CORP* and *WORK* in the first and second period, respectively. Although estimation results with regard to loan purposes are different between the two periods, as we expected, these results have the same economic meaning for regional bank participation in loan transactions. Loans whose purposes are working capital and corporate purposes are used for ordinary business activities; it is easier to evaluate credit risk for loans that have these purposes relative to

others, such as capital expenditures, with longer maturities and higher uncertainty. Hence, regional banks tend to participate in syndicated loans for these loan purposes in both periods.

Table 7 (b) Estimation results: 2009 – 2014

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>LAOMOUNT</i>	-0.130 ** (0.025)	-0.130 ** (0.025)	-0.131 ** (0.025)	-0.087 ** (0.027)	-0.083 ** (0.028)
<i>MATURITY</i>	-0.0001 (0.0008)	0.001 (0.0008)	0.0009 (0.0008)	0.001 (0.0008)	0.002 ** (0.0008)
<i>NUMBER</i>	0.014 ** (0.003)	0.016 ** (0.003)	0.016 ** (0.003)	0.014 ** (0.003)	0.015 ** (0.003)
<i>JPY</i>	1.911 ** (0.112)	1.821 ** (0.114)	1.839 ** (0.114)	1.832 ** (0.115)	1.833 ** (0.11)
<i>CORP.</i>	-0.091 (0.066)				
<i>WORKING</i>		0.590 ** (0.091)	0.568 ** (0.092)	0.495 ** (0.095)	0.468 ** (0.098)
<i>RATE</i>	0.147 * (0.073)	0.137 (0.071)	0.155 * (0.072)	0.309 ** (0.079)	0.227 ** (0.080)
<i>GUARANTOR</i>			0.195 * (0.096)	-0.007 (0.101)	
<i>ASIA</i>				0.810 ** (0.078)	0.681 ** (0.079)
<i>FINANCIAL</i>					0.660 ** (0.080)
<i>CONST</i>	0.069 (0.462)	-0.115 (0.464)	-0.117 (0.465)	-1.224 * (0.513)	-1.454 ** (0.529)
Sample	11270	11270	11270	11270	11270
Pseudo R <sup>2</sup>	0.173	0.189	0.191	0.242	0.274

\*, \*\* indicate that parameters are statistically significant at confidence level of 95% and 99%, respectively.

As for the third category of explanatory variables, borrower characteristics, *RATE* demonstrates different results between the two periods as shown in a comparative analysis. Although we can determine that *RATE* has a positive and significant coefficient in the first period, estimation results are stable in the second period because the coefficients are both positive and negative. This result is related to the fact that more borrowers obtain credit ratings compared to the first period. *RATE* facilitates regional bank participation in loan transactions by mitigating information asymmetry on borrower credit risk because credit rating produces information on the credit default of borrowers and supplies additional credit information to regional banks. We cannot confirm a definitive result for *GUARANTOR* because estimated coefficients are not stable.

*ASIA* has positive and statistically significant coefficients in both periods. This variable is also related to information asymmetry and the effect of the familiar name of Asian borrowers. This result indicates that *ASIA* lowered the hurdle, preventing regional banks from entering syndicated loan markets by making risk evaluation easier and decreasing information production costs. The last variable, *FINANCIAL*, demonstrates the same effects on regional bank participation in both periods. Generally speaking, the financial services industry is effectively protected by governments and insolvent banks have been bailed out under the “too big to fail” principle. This implicit guarantee may help regional banks participate in loans to the financial services industry.

Table 8. Marginal effects

1992 - 1997		2009 - 2014	
Explanatory variable	Marginal effect	Explanatory variable	Marginal effect
<i>LAMOUNT</i>	-0.002	<i>LAOMOUNT</i>	-0.001
<i>MATURITY</i>	0.000	<i>MATURITY</i>	0.000
<i>RATE</i>	0.003	<i>RATE</i>	0.003
<i>USD</i>	0.005	<i>JPY</i>	0.256
<i>NUMBER</i>	0.001	<i>NUMBER</i>	0.000
<i>CORP</i>	0.006	<i>WORKING</i>	0.016
<i>ASIA</i>	0.069	<i>ASIA</i>	0.027
<i>FINANCIAL</i>	0.012	<i>FINANCIAL</i>	0.026

The probit model demonstrates how the probability of participating in syndicated loans changes in response to changes in the explanatory variables by calculating the magnitudes of marginal effects. Table 8 presents calculation results of model 5 in both periods. As for the first period, we find the greatest effect of *ASIA* on regional bank participation. *FINANCIAL* has the second greatest marginal effect. Meanwhile, *JPY* demonstrates the greatest marginal effect in the second period. *ASIA* and *FINANCIAL* come to the group which has the next greatest effect on regional bank participation. We find the similarity between two periods is that borrower characteristics enhance the probability of regional bank participation in syndicated loans. In contrast, currency denomination presents the difference in the lending pattern of regional banks in syndicated loan markets.

## 6. CONCLUSION

This paper investigated overseas activities of regional banks that attract significant attention from the banking industry. This topic has a remarkable importance for regional banks because overseas activities are related to their growth strategies. Although overseas activities include the establishment of representative offices and business alliances with foreign banks, we focused on international syndicated loans so that it is possible to directly measure contributions to profit-earning. Furthermore, we compared loan transactions executed in the first and second internationalization to detect clear-cut features of the lending patterns of regional banks in syndicated loan markets.

We posed two questions to draw a picture about internationalization of regional banks. The first question explored differences in loan transactions between the two periods. To this end, we overviewed participation situations and conducted comparative analysis. We confirmed several changes in the participation situation of regional banks and loan transactions involving regional banks. First, activities of regional banks in the first period overwhelm that of the second period. The first internationalization was characterized by a broad base of participant banks. The number of regional banks that participated in syndicated loans is 48 banks and 36 banks in the first and second period, respectively. Regional banks demonstrated a greater appetite for overseas loans in the first period. This is indicated by the accumulated number of regional bank participants: 635 banks in the first period and 287 banks in the second period. Next, we confirmed remarkable changes in borrower nationality. Asian borrowers decreased their presence, and the number of loans to Asian borrowers became less than half of that in the first period. As for currency denomination, we found a remarkable increase of loans denominated in Japanese yen in the second period. This situation is in contrast to the first period when US dollars dominated the currency denomination. The last difference we observed is the size of the syndicate, which demonstrates a much greater number of participants in the first period.

The second question asked which types of loan transactions regional banks prefer to participate in. We answered this question by using Probit analysis and a calculation of the marginal effects. Estimation results demonstrated similarities in the lending behavior of regional banks between the two periods. Smaller loan amounts, larger syndicates, and loan purposes for ordinary businesses facilitate regional bank participation in syndicated loans. These preferences reflect limited risk-taking capability and the weaker screening technique of regional banks. We also observed two differences in lending patterns. The first is the change in currency denomination, and

Japanese yen increases its presence in the second period. This is an important point to forecast the future of regional bank participation. Credit rating increases effects on regional bank participation in the second period due to changes in the market environment and borrower behavior.

The features of regional bank participation are tentative results. The second internationalization is still in progress, whereas the first ended with the Asian currency crisis and non-performing loan problem. Although mergers between regional banks get much attention, regional bank participation in international syndicated loans is also important for their growth strategies because they confront diminishing loan demand due to the aging economy. Hence, we have to continue fixed-point observation to investigate whether international syndicated loans will be one of the pillars for profit-earning.

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