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Banking Relationships and Financing Decisions of REITs

Yuanchen Chang
Department of Finance, National Chengchi University, Taiwan.
Email: yccchang@nccu.edu.tw

Yi-Ting Hsieh
Department of Finance, Feng Chia University, Taiwan.
Email: sayeating@gmail.com

Kiat Ying Seah*
Department of Real Estate, National University of Singapore.
Email: sky@nus.edu.sg

Banking relationships are key factors that influence the financing decisions of real estate investment trusts (REITs) which are mandated to hold highly specific assets. Using a comprehensive data set of loan facilities by REITs across different markets, this paper empirically tests the effect of REIT-bank relationships on credit costs and other non-price credit terms. We find that REITs with past banking relationships enjoy favorable loan terms that include lower loan rates, higher loan amount, and a less stringent collateral requirement. These favorable terms were kept by relationship banks during the global financial crisis from 2007 to 2009.

Keywords

Bank lending relationship, REITs, Cross-country

*Corresponding author

1. Introduction

Real estate investment trusts (REITs) are a universal securitized real estate vehicle adopted by different countries around the world. With features that include intensive real estate holdings that constitute at least 70% of the total assets and tax transparency, REITs can be used as a clean experimental setup to empirically test the effects of banking relationships on capital structure decisions. However, there is a dearth of empirical studies in the literature that explain how banking relationships influence the financing decisions of REITs. Hardin and Wu (2010) show that REITs use banking relationships to signal long-term ratings and issue more public debt. REITs with banking relationships have less than average leverage and use less secured debt. Expanding on the signaling story of Hardin and Wu (2010), we employ REITs to empirically answer three specific questions: (1) Do REITs with highly specific assets use banking relationships to access better credit terms? (2) Given that there are no incremental tax incentives for REITs to borrow from banks instead of using other funding sources from the capital market (Howe and Shilling, 1988; Brown and Riddiough, 2003), why do REITs still pursue banking relationships? (3) Are there variations in the outcomes of different REIT regimes?

Using a set of comprehensive cross-country data of 3,282 REIT loan facilities across seven countries over the sample period of 1992-2015, we find empirical evidence that support the importance of REIT-bank relationships on credit supply and cost of capital. We show that REITs with stronger banking relationships enjoy the following favorable terms: lower cost loans, higher loan amounts, and less stringent collateral requirements. Our results show that the presence of a banking relationship decreases borrowing costs by 14% on average after controlling for the observable firm-specific and loan-specific variations, as well as the country and fixed effects in the models. The effects of the banking relationships are stronger after controlling for possible endogeneity in banking relationships with borrowing costs lowered by 21%. Having previous banking relationships increases the current loan amount by 53.5%, decreases the loan maturity by 12.9% and lowers the probability of requiring to post collateral by 12.3%, on average. We do not find significant changes to favorable credit terms on relationship loans extended to REITs during the global financial crisis (GFC) years (2007-2009). Lastly, we find that banking relationships yield direct economic benefits in terms of lower credit costs to REITs in the United States (US), but increase holding up costs for REITs in Japan.

This study makes incremental contributions to the literature in three areas. First, we show that REITs with highly specific assets use banking relationships to reduce funding costs and increase credit access, especially in the US. The results align with the findings in the finance literature (Petersen and Rajan, 1994; Berger and Udell, 1995; Chakraborty and Hu, 2006; Cole, 1998; Chakraborty et al., 2010). Second, we do not find significant changes in banking

relationships in the REIT markets during the GFC, which is consistent with the findings of Jiangli et al. (2008) in Indonesia and the Philippines. Third, we find that Japanese REITs bear higher holding costs for using relationship banking, which aligns with the liquidity risk story in Detragiache et al. (2000) and Bannier (2010).

The remainder of our paper is organized as follows: Section 2 reviews the REIT literature on financing decisions; Section 3 describes the data; Section 4 presents the empirical results; and Section 5 concludes.

2. Literature Review

The review covers two broad strands of the literature. The first strand discusses banking relationships in the general finance literature, and the second strand covers specific issues related to leverage and capital structure decisions of REITs.

2.1 Banking Relationships and Financing Decisions

Banks as financial intermediaries play an important role in monitoring and screening loan contracts and borrower behavior. Outside banks find it hard to rely on other banks to monitor and screen loan contracts; and distressed loans, if occur, adversely impact the returns of banks (Dahiya et al., 2003). Establishing long-term firm-bank relationships allows banks to eliminate information asymmetries (Diamond, 1991; Boot, 2000). Some relationship banks use private information to extract rents (Detragiache et al., 2000; Ioannidou and Ongena, 2010). Banks with past relationships also help their borrowers in other banking businesses, such as seasoned equity offerings (Drucker and Puri, 2005), public debt underwriting (Yasuda, 2005; Hardin and Wu, 2010), as well as initial public offering (IPO) underwriting (Bharath et al., 2007). The costs and benefits of banking relationships (Lummer and McConnell, 1989; Petersen and Rajan, 1995; Berlin et al., 1998; Dahiya et al., 2003), as well as the determinants of banking relationships from the perspective of banks (Lawrence and Lougee, 1970) have been extensively examined in the finance literature.

There are various motivations why firms create banking relationships (Gande et al., 1997; James, 1987; Petersen and Rajan, 1994; Puri, 1996). Banking relationships give firms access to favorable loan terms, such as lower interest rates (Petersen and Rajan, 1994; Berger and Udell, 1995), reduced collateral requirements in securing loans (Berger and Udell, 1995; Chakraborty and Hu, 2006) and higher success rates in loan applications (Cole, 1998), as well as increases in credit limits (Chakraborty et al., 2010). Petersen and Rajan (1994) find evidence that suggests lending relationships increase loan availability for small businesses, while Berger and Udell (1995), using the same dataset, find

that loan terms are more favorable for relationship loans; loan durations are longer and collateral requirements are less stringent.[1] There are other firms that use fewer banks to protect confidentiality in proprietary business information (Bhattacharya and Chiesa, 1995). However, keeping relationships with a single bank comes with hold-up costs (Ongena and Smith, 2000; Ongena et al., 2012; Bannier, 2010; Gopalan et al., 2011).

Despite high transaction costs, some firms choose to borrow from multiple banks for reasons other than financing considerations. Bannier (2010) argues that firms with highly specific assets borrow from multiple banks to credibly signal their desire to abstain from strategic default. For these firms, Detragiache et al. (2000) show that using multiple banks reduces liquidity risks, or more specifically, avoids prematurely terminating investments that are otherwise profitable.

Banks that engage in repeated relationships with firms face lower risks of information asymmetries. The literature suggests that firms tend to self-sort when establishing banking relationships: larger and better quality firms invest in banking relationships whereas smaller and higher risk firms tend to source for loans from more than one bank. In general, small and opaque firms require banks to specialize in information production. Firm-bank relationship is entrenched when there are scale economies from information production and when such information is reusable over time and over different bank products (Diamond, 1984; Petersen and Rajan, 1994). In the presence of such self-sorting mechanism, banking relationships should predict firm performance (Degryse and Ongena, 2001; Chakraborty and Hu, 2006)[2] Fields et al. (2006) show that the advantages of having banking relationships that were significant during the 1970s and 1980s largely disappeared after the 1980s.

There are institutional differences in the banking systems across countries. Banks in countries, such as the US, United Kingdom (UK), Canada, and Australia, moved from relationship banking to more transaction-oriented banking due to intense inter-bank competition (Boot and Thakor, 2000). The banking systems in Japan, many continental European countries (e.g., Germany, the Netherlands and Switzerland), as well as most emerging economies (e.g., Korea, Mexico and Brazil), are still largely relationship-oriented (Wan et al., 2008). The relationship banking system also varies across countries in Asia. Japanese relationship banks support firms in international expansion efforts (Jiangli et al., 2008) and also require them to pledge collateral (Ono and Uesugi, 2009). Relationship banks were more likely to extend loans

[1] Berger and Udell (1995) focus on lines of credit (LOCs) and argue that they differ from other loans that are deemed more arms-length since LOCs are a forward commitment on the part of the banks and termination of these loans is rarely invoked.
[2] Fok et al. (2004) show that relationships with foreign banks increase firm performance, while relation- ships with domestic banks decrease firm performance.

to firms in Korea and Thailand, but not in Indonesia and Philippines during the Asian Financial Crisis in 1997 (Jiangli et al., 2008).

2.2 Financing Decisions of REITs

The REIT literature mostly focuses on the effects of borrowing behavior and leverage on the performance of REIT stocks (Cheng et al., 2007; Ling and Naranjo, 2015). The 1990s was a period of explosive growth in the US REIT market which witnessed a large influx of institutional funds into the REIT markets. A new breed of REITs that were larger in market capitalization, with higher leverage, and more investment-driven emerged in the market in the post-1992 periods (Ott et al., 2005). Many REITs used "cheap" capital to finance investments and acquisitions with a high Tobin's Q value. This drove significant growth through leverage, especially from 2000 to 2006. The subprime crisis in 2007 forced many REITs to deleverage and restructure their capital (Giacomini et al., 2015; Pavlov et al., 2015; Sun et al., 2015; Sing et al., 2016; Kawaguchi et al., 2017).

Early studies in the literature use the tax-transparency feature to evaluate the optimal capital choice of REITs. Howe and Shilling (1988) find that REITs use public debt to signal REIT profitability. Brown and Riddiough (2003) and Elayan et al. (2004) show that the stock markets react positively to public equity issuance by REIT managers if used to fund investment growth.

Banking relationships in REITs have received relatively less attention, despite the exponential growth of bank lines of credit used by REITs after 1997 [3]Hardin and Wu (2010) show that REITs with banking relationships are likely to have long-term bond ratings and issue more public debt, which support the signaling story of Howe and Shilling (1988). These REITs with banking relationships are also more likely to maintain lower secured debt and lower leverage ratios relative to other REITs with no banking relationships. They argue that bank debts are used mostly to bridge financing for REITs. There is no direct evidence on how banking relationships help REITs increase their access to credit.

This study aims to fill the gap by using REIT samples from 7 REIT countries including the US. Like Hardin and Wu (2010), we restrict our sample to primarily REITs. The institutionally-mandated high dividend payout rates mean that REITs have to continually look for external sources of capital. Coupled with the observation that REITs are highly levered and have increasingly relied on bank debt since the new REIT era, the effects of banking relationships on the loan contract terms of REITs deserve a closer look. However, unlike Hardin and Wu (2010), we focus on how repeated borrowing from either a single or multiple lenders could reduce information asymmetries, which leads to

[3] Using the sample of 202 US REITs, Hardin and Wu (2010) show that the outstanding bank LOCs for REITs increased 40 times during 1992-2003 while seasoned equity offerings only increased 11 times.

favorable loan terms. Like Bharath et al. (2007), we test the effect of past banking relationships on present loan terms. Unlike the early papers that include small and opaque firms, we look at the effect of relationship banking on listed REITs. Similar to Giacomini et al. (2015), we analyze the cross-country effects, instead of focusing only on a particular geographic market.

3. Data

We obtain a large sample of cross-country bank loan data of REITs over the period of 1987 to 2015 from the LPC Dealscan database. The data on publicly listed REITs come from two sources, namely, the S&P Global Market Intelligence (formerly known as SNL Financial) (S&P REITs), and Refinitive (formerly known as Datastream). The Dealscan database provides detailed information on syndicated loans including loan terms and borrower details. The S&P database contains information on profile and financial variables of REITs; whereas, the Datastream database provides time series data on REIT stock performance. We match REIT firms in the S&P and Datastream databases with bank loans in the Dealscan database by using a text-matching algorithm. After careful checking and verifying the matched data, our final sample consists of 282 REIT-borrowers with a corresponding matched sample of 3,282 loan tranches across seven countries.[4]

As the loan terms differ by credit facility, we perform the empirical tests with the use of debt (facility) level data. We construct a list of variables from the loan and REIT information for the subsequent empirical analyses; the name and description of each variable and its data source are summarized in Table 1. Since banking relationship is a multifaceted concept, the key variable for banking relationships is based on a dummy variable, "D(Relationship)", which takes the value of 1 if a REIT has had at least one dealing with a lead bank in the last five years prior to the present loan. We use two other continuous variables to quantitatively measure the extent of banking relationships: (1) the frequency of dealings with lead banks, "Freq(Relationship)", and (2) dollar value of deals with lead banks, "Amt(Relationship)".

Table 2 shows the distribution of the number of loans by banking relationship and year. Similar to Hardin and Wu (2010), our results show a large growth in the number of relationship loans, especially during the 2000s. Table 3 shows the frequency of relationship loans sorted by the purpose of loans into 12 broad categories, and the top five most commonly loan purposes, in descending order, include corporate purposes, debt repayment, working capital, takeover and real estate investments. Table 4 shows the distributions of relationship and non-relationship loans by region and country. Our sample is dominated by US REITs loans which consist of 2,435 loans, followed by Japanese REITs which consist of 384 loans.

[4] We exclude countries with less than 10 loan deals.

Table 1 Description of Variables

[Panel A] Relationship Variables

Variable	Definition	Data Source
D(Relationship)	A dummy variable equals 1 if there is a relationship with any of the lead banks in the last five years before the present loan and 0 otherwise.	LPC Dealscan
Freq(Relationship)	The ratio of number of deals with the lead bank(s) to total number of loans borrowed by the firm in the last five years before the current loan.	LPC Dealscan
Amt(Relationship)	The ratio of the dollar value of deals with the lead bank(s) to the total dollar value of loans borrowed by the firm in the last five years before the current loan.	LPC Dealscan

[Panel B] Loan Characteristics

Variable	Definition	Data Source
All-in-drawn (bps)	The all-inclusive cost of a drawn loan to the borrower. This equals the coupon spread over LIBOR on the drawn amount plus the annual fee and is reported in basis points.	LPC Dealscan
All-in-undrawn (bps)	The fee charged on the undrawn loan amounts.	LPC Dealscan
Upfront fee (bps)	A one-time fee, which is most often collected at the closing of the deal.	LPC Dealscan
Annual fee (bps)	An annual charge against the entire commitment amount.	LPC Dealscan
Facility amt ($million)	The dollar amount of loan facility in millions.	LPC Dealscan
Maturity (month)	Length in months between facility activation date and maturity date.	LPC Dealscan
Collateral	A dummy variable that equals 1 if the loan has to be secured and zero otherwise.	LPC Dealscan

(Continued…)

(Table 1 Continued)

[Panel C] Borrower Characteristics

Variable	Definition	Data Source
Total Assets ($billion)	The book value of assets.	S&P REITs
Size	The natural log of the book value of the total assets.	S&P REITs
Bank Debt	The ratio of bank loan to total assets by book values.	S&P REITs
Profitability	The ratio of operating income to total assets.	S&P REITs
Market to Book Ratio	The ratio of market value of firm to total assets.	Datastream
Investment Grade	A dummy variable that is equal 1 if the company has the investment grade rating and zero otherwise.	S&PL REITs
Cash ($billion)	Total cash.	S&P REITs

Notes: The table provides list of key variables and the corresponding descriptions. We obtain our sample data from three databases, namely, the S&P Market Intelligence (S&P REITs), LPC Dealscan, and Datastream. As loan contract terms differ across facilities, we perform our tests at the facility level. We manually match the REIT firms in the S&P database with the merged Dealscan and Datastream database by using a text-matching algorithm.

Table 2 Distribution of Loans by Banking Relationship and Year

Year	Total	D(relationship)=0	D(relationship)=1
1992	3	2	1
1993	6	3	3
1994	28	11	17
1995	26	10	16
1996	32	13	19
1997	40	9	31
1998	38	13	25
1999	38	14	24
2000	80	22	58
2001	75	19	56
2002	114	31	83
2003	103	21	82
2004	131	21	110
2005	158	31	127
2006	156	32	124
2007	201	62	139
2008	116	28	88
2009	118	45	73
2010	143	38	105
2011	347	77	270

(Continued…)

(Table 2 Continued)

Year	Total	D(relationship)=0	D(relationship)=1
2012	380	89	291
2013	305	62	243
2014	359	62	297
2015	285	47	238
Total	3,282	762	2,520

Notes: The table shows the cumulative loan numbers by year, and the loan sample is sorted into relationship and non-relationship loans by using a dummy variable "D(Relationship)". D(Relationship) equals 1, if a loan facility is from a lead lender that has been a lead bank in any loans to that borrower in the five years preceding the current loan facility; otherwise 0, if a loan is taken from a lead lender without any past lending relationships in the last five years.

Table 3 Distribution of Loans by Purpose

Purpose	Total number	Percentage	D(relation -ship)=0	D(relation -ship)=1
Corp. purposes	1725	52.6%	347	1378
Debt Repay.	522	15.9%	118	404
Work. cap.	369	11.2%	98	271
Takeover	166	5.1%	47	119
Real estate	157	4.8%	43	114
Acquis. line	134	4.1%	53	81
CP backup	87	2.7%	4	83
Stock buyback	20	0.6%	5	15
Spinoff	19	0.6%	14	5
Proj. finance	18	0.5%	10	8
Capital expend.	15	0.5%	4	11
Others	50	1.5%	19	31
Total	3282	1	762	2520

Notes: The table categorizes the sample loan facilities by purpose into 12 broad categories, ranked in descending order by the number of the loans. The loans are also further sorted into relationship and non-relationship loans by using a dummy variable "D(Relationship)", which equals 1, if a loan facility is from a lead lender that has been a lead bank in any loans to that borrower in the five years preceding the current loan facility; otherwise 0, if a loan is taken from a lead lender without any past lending relationships in the last five years.

Table 5 provides the descriptive statistics of variables related to banking relationship, and loan and borrower characteristics. To limit the effects of outliers, we winsorized the sample at the top and bottom 1 percentiles by loan amount. The results on banking relationship ("d(Relationship)" show that 76.8% of the sample REITs, on average, secured at least one loan from the current lead bank in the last 5 years prior to the current loan. REITs obtained 59.7% of loans by number of loans ("Freq(Relationship") and 32.9% by dollar amount ("Amt(Relationship"), on average, from the same lead banks in the last

5 years. In term of loan attributes, the average loan cost, All-in-drawn, is about 161 basis points (bps), the average loan facility size is USD 432.8 million, and 25.6% of the loans are collateralized. Other REIT firm attributes are summarized in Panel C.

Table 4 Distribution of Loans by Region and Country

Region	Country	Total	D(relation -ship)=0	D(relation -ship)=1
Asia				
(N=565)	Australia	23	7	16
	China	29	14	15
	Hong Kong	83	28	55
	India	8	1	7
	Indonesia	3	3	
	Japan	384	62	322
	Korea (South)	3	1	2
	Macau	7	4	3
	Philippines	2		2
	Singapore	23	13	10
Europe				
(N=211)	Belgium	6	2	4
	Finland	20	1	19
	France	23	6	17
	Germany	2		2
	Luxembourg	10	6	4
	Netherlands	10	3	7
	Norway	2		2
	Spain	16	7	9
	Switzerland	5		5
	United Kingdom	117	43	74
Latin America				
(N=56)	Bermuda	44	11	33
	British Virgin Islands	1	1	
	Chile	6	2	4
	Mexico	5	1	4
Middle East				
(N=3)	United Arab Emirates	3		3
North America				
(N=2,447)	Canada	12	8	4
	USA	2,435	538	1,897
Total		3,282	762	2,520

Notes: The table groups the sample loan facilities by country and region, based on the REIT domicile location. The loans are also further sorted into relationship and non-relationship loans by using a dummy variable ”D(Relationship)”, which equals 1 if a loan facility is from a lead lender that has been a lead bank in any loan to that borrower in the five years that preceded the current loan facility; otherwise 0, if a loan is taken from a lead lender without any past lending relationship in the last five years.

Table 5 Descriptive Statistics

[Panel A] Relationship Variables

Variable	Mean	Std Dev	Minimum	25th Pctl	Median	75th Pctl	Maximum
D(Relationship)	0.768	0.422	0.000	1.000	1.000	1.000	1.000
Freq(Relationship)	0.597	0.406	0.000	0.147	0.712	1.000	1.000
Amt(Relationship)	0.329	0.290	0.000	0.030	0.300	0.533	2.168

[Panel B] Loan Characteristics

Variable	Mean	Std Dev	Minimum	25th Pctl	Median	75th Pctl	Maximum
All-in-drawn (bps)	161.806	112.170	2.000	80.000	145.000	212.500	1000.000
All-in-undrawn (bps)	27.057	22.954	0.250	15.000	22.500	35.000	400.000
Upfront fee (bps)	59.796	57.272	-25.000	25.000	50.000	75.000	400.000
Annual fee (bps)	18.140	8.684	3.000	11.000	17.500	25.000	60.000
Facility amt ($million)	432.804	719.085	0.976	85.000	206.815	500.000	13000.000
Maturity (month)	44.994	22.923	1.000	30.000	48.000	60.000	240.000
Collateral	0.256	0.436	0.000	0.000	0.000	1.000	1.000

(Continued…)

(Table 5 Continued)

[Panel C] Borrower Characteristics

Variable	Mean	Std Dev	Minimum	25th Pctl	Median	75th Pctl	Maximum
Total Assets ($billion)	19.075	114.172	0.029	1.479	3.435	8.143	3061.368
Size	15.121	1.422	11.879	14.207	15.050	15.913	19.703
Bank Debt	0.058	0.075	0.000	0.007	0.030	0.080	0.414
Profitability	0.085	0.064	-0.062	0.045	0.075	0.106	0.364
Market to Book Ratio	0.836	0.897	0.002	0.368	0.633	0.942	10.685
Investment Grade	0.416	0.493	0.000	0.000	0.000	1.000	1.000
Cash ($billion)	1.246	11.013	0.000	0.021	0.113	0.331	204.126

Notes: The table provides summary statistics of various loan and borrower characteristics. Panel A shows the key banking relationship variables: D(Relationship), Freq(Relationship) and Amt(Relationship). Panel B shows the variables on loan facilities, which include ”All-in-drawn”, ”All-in-undrawn”, ”Upfront fee” and ”Annual fee”, all reported in basis points (bps); ”Loan Facility Size” in millions of US$; ”Maturity” in months between facility activation date and maturity date; and ”Collateral” on secured or unsecured loans. Panel C shows the REIT firm characteristics, which include ”Total Asset”, ”Size”, ”Bank Debt”, ”Profitability”, ”Market to Book Ratio”, ”Investment Grade” rating dummy, and ”Cash”. The detailed descriptions of the variables are shown in Table1.

3.1 Univariate Tests

We run univariate t-tests on differences in loan terms and firm characteristics between REITs with and without relationship banking. The results are reported in Table 6. The t-statistics are significant at less than 1% for all the loan-term variables except for annual fee and maturity. The results show that relationship loans are cheaper in terms of all-in-fees for both drawn and undrawn loans, and upfront and annual fees. The relationship loans are larger with a lower collateral requirement. There is no significant difference in the loan maturity term for loans given by relationship and non-relationship banks. The univariate tests offer a snapshot of the differences in loan terms between relationship and non-relationship loans, and the tests do not control for the between-variables correlations. REITs with banking relationships tend to be larger by their book value of assets, more profitable, and have more cash-in-hand. They are more likely to obtain investment grade rating from independent agencies. However, the book to market value is not statistically different for the two groups of REITs.

4. Empirical Methodology and Results

We next explore multivariate tests on the effects of banking relationships on costs of borrowing. In addition, we include robustness tests of the effects of banking relationship on other loan terms, such as loan amount, loan maturity, and collateral requirement.

4.1 Model Specifications

We run the following regression specification to test the effect of banking relationship on borrowing costs:

$$AID_i = \beta_1 REL + Y^1\delta + Z^1\gamma + \phi_{i,c} + \theta_{yr} + c_i \qquad (1)$$

where AID_i represents the all-in-drawn rate, which is defined as the coupon spread over London Interbank Offered Rate (LIBOR) based on the drawn amount including annual fee, and expressed in bps. REL is the banking relationship variable represented by the three measures defined earlier, namely D(Relationship), Freq(Relationship) and Amt(Relationship); Y represents a vector of the loan characteristics and Z represents a vector of the firm (borrower) characteristics; and $\phi_{i,c}$ and θ_{yr} are the country and year fixed effects, respectively. β, δ and γ are the estimated parameters, and ci is a standard error term.

Table 6 Univariate Analysis - Loan Contract Terms

[Panel A] Loan Characteristics

Variable	D(Relationship)=0 (N=762) (A)	D(Relationship)=1 (N=2,520) (B)	(B)-(A) Difference
All-in-drawn (bps)	197.139	151.122	-46.016***
All-in-undrawn (bps)	34.162	25.233	-8.929***
Upfront fee (bps)	79.035	51.634	-27.402***
Annual fee (bps)	18.513	18.102	-0.411
Facility amt ($million)	256.27	486.184	229.914***
Maturity (month)	44.169	45.244	1.074
Collateral	0.382	0.217	-0.164***

[Panel B] Borrower Characteristics

Variable	D(Relationship)=0 (N=762) (A)	D(Relationship)=1 (N=2,520) (B)	(B)-(A) Difference
Total Assets ($billion)	8.061	22.406	14.345***
Size	14.607	15.276	0.669***
Bank Debt	0.049	0.061	0.011***
Profitability	0.08	0.087	0.007***
Market to Book Ratio	0.819	0.842	0.023
Investment Grade	0.258	0.463	0.205***
Cash ($billion)	0.462	1.483	1.021**

Notes: The table summarizes the t-test of differences between relationship ("D(Relationship) = 1") and non-relationship ("D(Relationship) = 0") loans. Columns(2) and (3) report the mean values for various price and non-price terms of loan contract, and Column (4) reports the difference in mean and also the statistical significance. Panel A summarizes the test statistics for the loan characteristics, and Panel B summarizes the test statistics for the borrower-specific characteristics. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

4.2 Baseline Results

Table 7 shows the baseline results of the effects of banking relationship on costs of borrowing. Column (1) shows that the presence of at least one relationship with a lead bank in the last 5 years (i.e. D(Relationship) = 1) decreases the AID by 13 bps. Compared to the difference of 46 bps in the all-in-drawn rates between relationship and non-relationship loans as shown in the previous univariate test, the magnitude is smaller after controlling for loan and REIT firm related attributes, as well as the country and year fixed effects, but the effect is still statistically and economically significant.[5]

[5] We also use more stringent rules based on a shorter duration of 1 and 3 years to identify banking relationships. The results, which are not reported in the paper due to space considerations, still hold.

Table 7 Effects of Banking Relationships and Borrowing Costs

Independent Variable	Dependent Variable: All-in-drawn		
	(1)	(2)	(3)
D(Relationship)	-13.289***		
	(4.776)		
Freq(Relationship)		-16.966***	
		(4.709)	
Amt(Relationship)			-18.306***
			(6.781)
Log(Facility amt)	-10.500***	-10.048***	-10.147***
	(2.616)	(2.637)	(2.743)
Log(Maturity)	-2.909	-2.429	-2.459
	(3.038)	(3.108)	(3.066)
Collateral	32.082***	31.935***	33.134***
	(5.529)	(5.524)	(5.656)
Revolver	-366.230***	-361.628***	-365.980***
	(32.717)	(33.005)	(32.702)
Term loan	-321.273***	-318.021***	-317.373***
	(31.719)	(32.348)	(31.318)
Corp. work.	-7.837*	-7.890*	-7.691*
	(4.322)	(4.289)	(4.350)
Size	-10.868***	-10.826***	-11.659***
	(3.455)	(3.439)	(3.407)
Leverage ratio	90.999**	88.827**	89.464**
	(39.136)	(39.107)	(39.184)
Profitability	-103.674*	-104.758*	-108.029*
	(57.715)	(57.642)	(58.187)
Market to Book	-4.651	-4.323	-4.424
	(3.076)	(3.078)	(3.101)
Investment Grade	-13.362**	-14.161**	-14.438**
	(6.024)	(5.934)	(5.967)
Log(Cash)	2.131	2.011	2.215
	(1.409)	(1.417)	(1.412)
Const.	827.322***	809.392***	828.026***
	(62.668)	(62.987)	(62.164)
Year Control	Yes	Yes	Yes
Country Control	Yes	Yes	Yes
City or State Control	Yes	Yes	Yes
Multiple Loan-type Control	Yes	Yes	Yes
N	3,282	3,282	3,282
adj. R^2	0.603	0.631	0.630

Notes: The table summarizes the regression results with the dependent variable, "All-in-drawn" in bps. The three relationship variables: D(Relationship), Freq(Relationship), and Amt(Relationship) are included in the models with other controls on loan and REIT characteristics. Numbers in parentheses are standard errors cor2re7cted for heteroscedasticity with country and year fixed effects. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

In Column (2), we use Freq(Relationship), which measures the frequency of bank dealings with the same lead banks in the past 5 years, as the proxy of banking relationships, and find that on average, a 10% increase in Freq(Relationship) decreases the AID by 1.7 bps. Similarly, Column (3) shows that a 10% increase in Amt(Relationship), which measures the banking relationships by the dollar value in the past 5-year loans, decreases the AID by 1.8 bps on average. All the coefficients on the relationship variables are statistically significant at conventional levels. Consistent with the hypothesis in Bannier (2010), our results show that bank relationships offer significant holdup benefits in terms of lower credit costs to REITs with a high asset-specificity feature.

Most of the control variables are significant and have the correct signs. Larger loan amounts and firm size, higher profitability and the market to book value ratio are associated with lower costs of borrowing. Risky borrowers with higher leverage ratio and loans secured with collateral are associated with higher borrowing costs. However, we do not find any statistical significance of cash flow constraints on borrowing costs.

4.3 Robustness Tests - Impact of the Global Financial Crisis

Studies have shown that REITs faced significantly higher leverage risks during the GFC. Many REITs deleveraged and restructured their capital by selling their assets and extending their debt maturity to mitigate the financial impact brought on by the GFC on their stock prices (Giacomini et al., 2015; Pavlov et al., 2015; Sun et al., 2015; Kawaguchi et al., 2017). Jiangli et al. (2008) show mixed evidence in Asian countries, where banking relationships are strengthened in Korea and Thailand, but not in countries like Indonesia and Philippines during the GFC.

We rerun the baseline model with the all-in-drawn rate as the dependent variable, and include a year dummy that represents the GFC (”Crisis”) that covers the period from 2007 to 2009, and an interactive term, (”CrisisxD(Relationship)”). The results in Table 8 reveal that the three banking relationship variables, namely [D(Relationship), Freq(Relationship) and Amt(Relationship)], are statistically significant and have negative signs. The Crisis dummy is significant and positive in all three specifications which indicate increased loan costs during the GFC. However, the interactive term of banking relationships and the crisis dummy is not consistently significant in the three models, thus implying that the established relationships between banks and REITs remained unchanged during the crisis. The results show that banking relationships lower credit costs for REITs, and this effect persisted throughout the crisis. In other words, the preferable terms of relationship loans are not significantly different between the GFC and non-GFC periods of time. All of the other control variables are consistent with those reported in the baseline

models.[6]Again, the results show that collateralized loans have higher all-in-drawn rates even after controlling for the crisis period (Bharath et al., 2007; Ono and Uesugi, 2009).

Table 8 Effects of Global Financial Crisis

	Dependent Variable		
	(1)	(2)	(3)
D(Relationship)	-16.170***		
	(4.954)		
Crisis×D(Relationship)	31.043*		
	(4.841)		
Freq(Relationship)		-18.936***	
		(4.841)	
Crisis×Freq(Relationship)		21.229	
		(16.066)	
Amt(Relationship)			-17.671**
			(6.853)
Crisis×Amt(Relationship)			-6.821
			(24.410)
Crisis	137.006***	149.148***	149.594***
	(18.999)	(16.929)	(15.906)
Loan specific controls	Yes	Yes	Yes
REIT firm controls	Yes	Yes	Yes
Year Control	Yes	Yes	Yes
Country Control	Yes	Yes	Yes
N	3,282	3,282	3,282
adj. R^2	0.631	0.631	0.630

Notes: The table summarizes the regression results with the dependent variable, "All-in-drawn" in bps. The three relationship variables: D(Relationship), Freq(Relationship), and Amt(Relationship) are included in the models with other controls on loan and REIT characteristics. Crisis is a dummy variable that equals 1 if the loan start on financial crisis (year=2007, 2008, and 2009) and 0 otherwise. Numbers in parentheses are standard errors corrected for heteroscedasticity with country and year fixed effects. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

4.4 Cultural Effects: US REITs versus Japanese REITs

Intense inter-bank competition could force banks in developed countries, such as the US, U.K., Canada and Australia (to name a few), to pivot from a relationship-focused system to a transaction-oriented system. Culture could therefore potentially shape the institutional environment and that in turn, shapes banking relationships. To distinguish between these two different systems, we

[6] The coefficients and the t-statistics are not reported in the table due to space constraints.

compare the Japanese REIT market - where banking relationships are still relatively prevalent, with the more transaction-oriented US REIT market.
We rerun the separate regressions following Equation (1) by restricting our REIT samples to contain only the REITs in the US market and REITs in the Japanese market. The results are summarized in Table 9. Columns 1 to 3 show the results of the US REITs and Columns 4 to 6 show the results of the Japanese REITs.

The results of the US REIT models are consistent with the baseline models and show the same negative signs on all the banking relationship variables. Interestingly, for the Japanese REIT market, banking relationships now show a positive yet significant effect. One way to interpret the results is that having banking relationships seem to increase hold-up costs such that the presence of a strong banking relationship actually increases all-in-drawn loan rates. The significance of the results means that we cannot rule out that the presence of relationship banking plays a key role in Japan and other emerging REIT markets. In these markets, high asset specificity could considerably limit the access of a REIT to other sources of capital. That there is little distinction between maintaining a social relationship versus a corporate relationship (as in the case of a banking relationship) is one possible explanation of why Japanese banking relationships persist despite higher hold-up costs (Wan et al., 2008).

To further explain the possible mechanism for the Japanese financing outcome, we separate our sample into two categories: REITs above the median leverage ratio and those below the median leverage ratio. The results are presented in Table 10. These results show that the hold-up effects mainly occur in the high-leverage sample of Japanese REITs. One possible reason is that when the leverage ratio is high, banks with more information on REITs could raise interest rates.

We also explore the possibility that the effects are heterogeneous among the different types of REITs in Japan. We separate the Japanese REITs into different types of REITs in Table 11 and conduct a simple univariate t-test on the difference in mean borrowing costs among the different types of REITs. Next, we examine the effect of lending relationship on the cost of borrowing among the different types of Japanese REITs by interacting the relationship variable with type of REIT. Interestingly, the results in Table 12 show that diversified, office and residential REITs in Japan pay higher costs with a bank relationship, while REITs related to financial institutions benefit from a bank relationship.

Table 9 Cultural Effects: US REITs versus Japanese REITs

Independent Variable	Dependent Variable: All-in-drawn (Japan)					
	US REITs			Japanese REITs		
	(1)	(2)	(3)	(4)	(5)	(6)
D(Relationship)	-9.365**			22.643***		
	(4.704)			(4.070)		
Freq(Relationship)		-11.941***			25.973***	
		(4.012)			(6.108)	
Amt(Relationship)			-15.497***			40.020***
			(4.781)			(8.269)
Loan specific controls	Yes	Yes	Yes	Yes	Yes	Yes
REIT firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Control	Yes	Yes	Yes	Yes	Yes	Yes
Country Control	Yes	Yes	Yes	Yes	Yes	Yes
N	2,435	2,435	2,435	384	384	384
adj. R^2	0.651	0.652	0.652	0.437	0.430	0.442

Notes: The table summarizes the regression results with the dependent variable, "All-in-drawn" in bps. The three relationship variables: D(Relationship), Freq(Relationship), and Amt(Relationship) are included in the models with other controls on loan and REIT characteristics. We run the models using US REITs (Columns 1 to 3) and Japanese REITs (Columns 4 to 6) separately. Numbers in parentheses are standard errors corrected for heteroscedasticity with country and year fixed effects. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 10 Lending Relationship Effects on Borrowing Cost including Lev. Ratio of Japanese REITs

[Panel A] With City or State Controls and Multiple Loan Type Fixed Effects

	Dependent Variable: All-in-drawn					
	Borrowers with Higher Leverage			Borrowers with Lower Leverage		
	(1)	(2)	(3)	(4)	(5)	(6)
D(Relationship)	18.216***			0.772		
	(3.917)			(3.628)		
Freq(Relationship)		20.538***			1.627	
		(6.973)			(9.237)	
Amt(Relationship)			36.439***			-0.236
			(9.237)			(7.003)
Loan specific controls	Yes	Yes	Yes	Yes	Yes	Yes
REIT firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Year controls	Yes	Yes	Yes	Yes	Yes	Yes
City/State controls	No	No	No	No	No	No
Multiple Loan-type Control	No	No	No	No	No	No
N	328	328	328	52	52	52
adj. R^2	0.481	0.478	0.490	0.892	0.892	0.892

[Panel B] Without City or State Controls and Multiple Loan Type Fixed Effects

	Dependent Variable: All-in-drawn					
	Borrowers with Higher Leverage			Borrowers with Lower Leverage		
	(7)	(8)	(9)	(10)	(11)	(12)
D(Relationship)	19.221***			0.772		
	(4.171)			(3.628)		
Freq(Relationship)		19.759***			1.627	
		(7.019)			(6.464)	
Amt(Relationship)			36.268***			-0.236
			(9.270)			(7.003)
Loan specific controls	Yes	Yes	Yes	Yes	Yes	Yes
REIT firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Year controls	Yes	Yes	Yes	Yes	Yes	Yes
City or State controls	Yes	Yes	Yes	Yes	Yes	Yes
Multiple Loan-type controls	Yes	Yes	Yes	Yes	Yes	Yes
N	328	328	328	52	52	52
adj. R^2	0.479	0.474	0.486	0.892	0.892	0.892

Notes: The table summarizes the regression results with the dependent variable, "All-in-drawn" in bps. The three relationship variables: D(Relationship), Freq(Relationship), and Amt(Relationship) are included in the models with other controls on loan and REIT characteristics. We use the spherical distance between the headquarters of the REIT and that of the lead bank as the measure of distance, and use the distance as IV to control for potential endogeneity with banking relationship variables. We run a 2-stage regression, where the Stage-1 regression tests the effects of the distance variable on banking relationships, and Stage-2 regression tests the effects of the predicted banking relationship recovered from the Stage-1 regression on the all-in-drawn rate variable. Numbers in parentheses are standard errors corrected for heteroscedasticity with country and year fixed effects. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 11 Types of Japanese REITs

REITs Type	**Dependent variable : All-in-drawn (bps)**				
	D(Relationship)=0		**D(Relationship)=1**		
	obs	mean (A)	obs	mean (B)	difference (B)-(A)
Development and Construction	0		2	25.000	25.000
Diversified REITs	2	27.000	9	76.111	49.111**
Financial Institutions	1	37.500	3	51.000	13.500
Infrastructure REITs	2	62.500	21	63.619	1.119
Office REITs	4	55.500	40	78.725	23.225
Others	6	41.500	32	31.219	-10.281
Residential REITs	14	73.071	69	129.054	55.982***
Retail REITs	10	42.700	45	54.800	12.100
Specialized REITs	3	41.667	54	66.650	24.983*

Notes: The table summarizes the regression results with the dependent variable, "All-in-drawn" in bps. The three relationship variables: D(Relationship), Freq(Relationship), and Amt(Relationship) are included in the models with other controls on loan and REIT characteristics. We use the spherical distance between the headquarters of the REIT and that of the lead bank as the measure of distance, and use the distance as IV to control for potential endogeneity with banking relationship variables. We run a 2-stage regression, where the Stage-1 regression tests the effects of the distance variable on banking relationships, and Stage-2 regression tests the effects of the predicted banking relationship recovered from the Stage-1 regression on the all-in-drawn rate variable. Numbers in parentheses are standard errors corrected for heteroscedasticity with country and year fixed effects. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 12 Effect of Lending Relationships on Cost of Borrowing among Different Types of Japanese REITs

	Dependent Variable: All-in-drawn	
	(1)	(2)
Diversified REITs × D(Relationship)	41.383**	47.503**
	(19.984)	(22.375)
Financial Institutions × D(Relationship)	-58.865**	-70.998**
	(27.743)	(30.300)
Infrastructure REITs × D(Relationship)	1.891	0.551
	(8.343)	(8.473)
Office REITs × D(Relationship)	18.014***	16.152**
	(6.768)	(6.656)
Others × D(Relationship)	2.542	5.433
	(6.167)	(6.211)
Residential REITs × D(Relationship)	51.824***	51.094***
	(7.652)	(7.665)
Retail REITs × D(Relationship)	9.706*	10.912*
	(5.728)	(5.555)
Specialized REITs × D(Relationship)	0.065	-0.629
	(6.610)	(6.690)
Const.	310.475***	263.170***
Loan specific controls	Yes	Yes
REIT firm controls	Yes	Yes
	(87.262)	(86.665)
Year Control	Yes	Yes
City or State Control	No	Yes
Multiple Loan-type Control	No	Yes
N	313	313
adj. R^2	0.589	0.592

Notes: The table summarizes the regression results with the dependent variable, "All-in-drawn" in bps. The three relationship variables: D(Relationship), Freq(Relationship), and Amt(Relationship) are included in the models with other controls on loan and REIT characteristics. We use the spherical distance between the headquarters of the REIT and that of the lead bank as the measure of distance, and use the distance as IV to control for potential endogeneity with banking relationship variables. We run a 2-stage regression, where the Stage-1 regression tests the effects of the distance variable on banking relationships, and Stage-2 regression tests the effects of the predicted banking relationship recovered from Stage-1 regression on the all-in-drawn rate variable. Numbers in parentheses are standard errors corrected for heteroscedasticity with country and year fixed effects. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

4.5 Controlling for Endogeneity

Banking relationships increase with firm age; Cole (1998) and Chakraborty and Hu (2006) argue that using the duration of banking relationships as a proxy of private information could thus be endogenous. Chakraborty and Hu (2006) use the demand for non-loan services vis-a-vis loan services to disentangle the endogenous relationships. Degryse and Ongena (2005) find significant spatial price discrimination in credit rates. Loan rates are negatively correlated with the distance between firms and lending banks. In other words, loan rates are higher when firms take loans from lending banks that are located further away.

It is difficult to fully eliminate the selection bias by REITs between long-term banking relationships and short-term favorable loan terms. It is assumed that REITs are more likely to establish relationships with banks near their office because home banks have better access to the private information of REITs compared to out-of-town banks. Therefore, the distance measure is correlated with banking relationship, but does not affect loan rates. We use the distance between REIT firms and relationship banks as the instrumental variable (IV) to mitigate potential endogeneity in banking relationships.

We collect data on geographical coordinates including latitude and longitude for the headquarters of REIT firms and the nearest lead lending banks (in radius). For loans with multiple lead banks, we use the minimum distance among the lending banks as the distance measure [7].We obtain the coordinates of cities from the World Cities Database and MY NASA DATA[8].

Based on Dass and Massa (2011), we calculate the spherical distance between the lead bank *i*, and REIT *j*, denoted as $d_{i,j}$, by using:

$$d_{i,j} = arc\cos\left(deg_{i,j}\right) \times r \tag{2}$$

where r is the radius of Earth in miles, and $deg_{i,j}$ is defined as:

$$\begin{aligned} deg_{i,j} = {} & cos(latitude_i) \times cos(longitude_i) \\ & \times cos(latitude_j) \times cos(longitude_j) \\ & + cos(latitude_i) \times sin(longitude_i) \\ & \times cos(latitude_j) \times sin(longitude_j) \\ & + sin(latitude_i) \times sin(latitude_j) \end{aligned} \tag{3}$$

Next, we use a two-stage approach to estimate the banking relationship models. The Stage-1 model regresses the banking relationship dummy on the distance between REITs and lending banks. We derive the predicted relationship

[7] For lead banks which we could not trace their coordinates, we substitute the location with the financial capital of each country.

[8] https://mynasadata.larc.nasa.gov/lattitudelongitude-finder/

measure from the Stage-1 model and use it to predict the credit outcomes in the Stage-2 models.

The results of the IV estimation summarized in Table 13 are robust. The distance measure is significant and negative, thus implying that REITs are more likely to engage in banking relationships with home banks that are located closer to their office. The negative effect of distance on banking relationship is consistent with the prediction of Degryse and Ongena (2005). The Stage-2 models in Columns(2), (4) and (6) show that the presence of a prior lending relationship lowers borrowing costs. The banking relationship effects are stronger in the IV models relative to the early baseline models in Table7. The bank relationships in the last 5 years reduce the all-in-drawn loan rate by 21%. For example, for a loan with an annual rate of 10%, the loan rate for REITs with past banking relationships is lower by 2.1 bps. Similarly, the loan rates are lower by 32% and 27%, if the banking relationships in term of the frequency and amount of loan by REITs increases by 1% in the last 5-years, respectively.

Table 13 Effects of Lending Relationships on Borrowing Cost using Bank-REIT Distance as IV

Independent Variable	**Dependent Variable: All-in-drawn**					
	(1)	(2)	(3)	(4)	(5)	(6)
	1st-stage	2nd-stage	1st-stage	2nd-stage	1st-stage	2nd-stage
Distance/100	-0.004***		-0.004***		-0.003***	
	(0.001)		(0.001)		(0.001)	
D(Relation -ship)		-19.717***				
		(7.510)				
Freq(Relation -ship)				-24.824***		
				(6.660)		
Amt(Relation -ship)						-16.008***
						(10.365)
Loan specific controls	Yes	Yes	Yes	Yes	Yes	Yes
REIT firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Control	Yes	Yes	Yes	Yes	Yes	Yes
Country Control	Yes	Yes	Yes	Yes	Yes	Yes
Multiple Loan-type Control	Yes	Yes	Yes	Yes	Yes	Yes
N	3,282	3,282	3,282	3,282	3,282	3,282
adj. R^2		0.597		0.597		0.598
F-statistic	1427080.6		212180.6		6970.28	
Prob F	0.00		0.00		0.00	

Notes: The table summarizes the regression results with the dependent variable, "All-in-drawn" in bps. The three relationship variables: D(Relationship), Freq(Relationship), and Amt(Relationship) are included in the models with other

controls on loan and REIT characteristics. We use the spherical distance between the headquarters of the REIT and that of the lead bank as the measure of distance, and use the distance as IV to control for potential endogeneity with banking relationship variables. We run a 2-stage regression, where the Stage-1 regression tests the effects of the distance variable on banking relationships, and Stage-2 regression tests the effects of the predicted banking relationship recovered from Stage-1 regression on the all-in-drawn rate variable. Numbers in parentheses are standard errors corrected for heteroscedasticity with country and year fixed effects. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

4.6 Effects on Non-Price Credit Terms

We further extend the tests to the effect of banking relationships on other non-price loan terms:

$$LoanTerm_i = \beta_1 REL + Y^1 \delta + Z^1 \gamma + \phi_{i,c} + \theta_{yr} + c_i \qquad (4)$$

where the dependent variable, *$LoanTerm_i$, is represented b*y three different non-price loan terms including loan size (in US$ millions), (”Log(Facility amt ’) (Column 2), loan maturity term, (”Log(Maturity)”) (Column 4), and collateral requirement, (”Collateral ”) (Column 6). We rerun the 2-stage regressions separately by substituting the dependent variable with the selected non-price loan term variables. The results in Table 14 show that the banking relationship effects, D(Relationship), are statistically and economically significant in influencing the non-price loan terms for REITs. [9] More specifically, the relationships with the same lead banks in the past 5 years have positive effects on loan size, but negative effects on loan maturity and collateral requirement for loans. The relationship loans, on average, are 53.5% higher than non-relationship loans after controlling for REIT firm and loan attributes, as well as year and country fixed effects. We find that a larger loan amount is related to lower loan costs and longer maturity terms. An increase in the all in-drawn rate by 1% generally leads to a reduction in loan quantum by about 19.7%. The results are consistent with the findings of Chakraborty and Hu (2006) based on the National Survey of Small Business Finance data, and the credit rationing argument in Stiglitz and Weiss (1981).

Column (4) shows that relationship loans have shorter maturity than other non-relationship loans. We find that the maturity term is positively correlated with the loan amount, but not correlated with the collateral requirement. If the shorter maturity term signals the ability of REITs to fulfill loan obligations, the result may be interpreted as their intention to abstain from strategic default as argued by Bannier (2010).

[9] Chakraborty and Hu (2006) find a significant impact of differential demand for loan services and non-loan services on credit limits.

Column (6) tests the effect of banking relationships on posted collateral requirement, where a dummy "Collateral" is an indicator variable that takes a value of 1 if a collateral is posted; otherwise 0. The presence of a banking relationship in the last 5 years lowers the probability of collateral requirement. We find that banking relationship has a negative effect on collateral at the conventional significance level. The practice of lowering collateral requirement is also found in relationship loans for small businesses in the US (Cole, 1998; Chakraborty and Hu, 2006); but different practices are observed for Japanese firms, where banking relationships increase the likelihood of firms posting collaterals for loans (Ono and Uesugi, 2009). We find that loans with collateral posted are higher in loan rates, but not significantly different in loan quantum and maturity terms.

Table 14 Effects of Banking Relationships on Non-Price Credit Terms

Independent Variable	**Log(Facility amt)**		**Log(Maturity)**		**Collateral**	
	(1)	(2)	(3)	(4)	(5)	(6)
	1st-stage	2nd-stage	1st-stage	2nd-stage	1st-stage	2nd-stage
Distance/100	-0.004***		-0.004***		-0.004***	
	(0.001)		(0.001)		(0.001)	
D(Relation-ship)		0.535***		-0.129**		-0.123***
		(0.084)		(0.053)		(0.036)
All-in-drawn/100	-0.022	-0.197***	0.013***	-0.004	-0.019	0.139***
	(0.022)	(0.037)	(0.022)	(0.026)	(0.022)	(0.016)
Log(Facility amt)			0.044***	0.085***	0.044***	-0.005
			(0.012)	(0.018)	(0.013)	(0.010)
Log(Maturity)	0.014	0.171***			0.008	0.011
	(0.016)	(0.037)			(0.016)	(0.012)
Collateral	-0.082**	-0.033	-0.081**	0.025		
	(0.039)	(0.068)	(0.039)	(0.036)		
Loan specific controls	Yes	Yes	Yes	Yes	Yes	Yes
REIT firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Control	Yes	Yes	Yes	Yes	Yes	Yes
Country Control	Yes	Yes	Yes	Yes	Yes	Yes
N	3,282	3,282	3,282	3,282	3,282	3,282
adj. R^2		0.615		0.321		0.239
F-statistic	14441.2		589082		44973.4	
Prob F	0		0		0	

Notes: The table summarizes the regression results with the dependent variable, loan facility amount, loan maturity and collateral dummy, and the independent variables include the banking relationship variable, D(Relationship), and other controls on loan and REIT characteristics. We use the spherical distance between the headquarters of the REIT and that of the lead bank as the measure of distance,

and use the distance as IV to control for potential endogeneity with banking relationship variables. We run a 2-stage regression, where the Stage-1 regression tests the effects of the distance variable on banking relationships, and Stage-2 regression tests the effects of the predicted banking relationship recovered from Stage-1 regression on the all-in-drawn rate variable. Numbers in parentheses are standard errors corrected for heteroscedasticity with country and year fixed effects. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

5. Conclusion

Firm-bank relationships are commonly affected by information asymmetries, which lead banks to find it worthwhile to establish long-term connections that grant them access to private information of firms through repeated borrowing, thereby reducing costly monitoring. Early studies provide strong evidence that suggests small businesses that are transparent with their private information, rely on banking relationships to access credit. There is also increasing empirical evidence indicating that publicly listed firms maintain single-banking relationships to ex- tract benefits in terms of favorable loan terms at the expense of holding up costs.

We extend this narrative by examining a large sample of 3,282 REIT loan facilities across 7 countries over the sample period of 1992-2015 to explore how REITs behave differently in banking relationships and credit terms. Bannier (2010) shows in his theoretical model that firms, such as REITs, with high asset specificity in their holdings face high liquidity constraints and are more likely to maintain single banking relationships rather than using multiple banks to signal the intention to abstain from strategic default. Our empirical evidence which uses REITs affirms this story, and shows that REITs with banking relationships significantly reduce borrowing costs. We also find significant effects of REITs with banking relationships in obtaining favorable non-price loan terms relative to other REITs. We acknowledge the specific nature of REITs and recognize potential limitations in applying these findings to broader contexts.

More specifically, we find that REITs with a strong banking relationship enjoy lower-cost loans. The presence of a banking relationship decreases borrowing costs by an average of 14 basis points, thus accounting for variations in loan and firm attributes, as well as country and year fixed effects. We also find that the value of banking relationships increases with the frequency and amount of loans in the previous five years. The loan costs reduce by approximately 1.8 bps with a 10% increase in the number and quantum of loans provided by the same lead bank in the last five years. The results hold during the GFC years (2007-2009) and remain robust when we control for the endogeneity of the relationship by using the distance from the lead bank(s) as an instrument.

However, we find interesting cultural differences in banking relationships between US and Japanese REITs. They also enjoy other non-price favorable loan terms, including a larger loan amount and a less stringent collateral requirement. However, they prefer a shorter loan maturity term, which may be deemed as a signal of credit rating in terms of their ability to repay their loans in a short period of time. Dealing with a lead bank in the past five years is associated with a larger current loan amount by about 53.5% on average than without any past relationships, and reduces the probability of requiring to post collateral by about 12.3% on average. Past banking relationships also reduce the loan maturity term by 12.9%.

To further explain the Japanese financing outcome, we observe that hold-up effects primarily occur for a high-leverage sample of Japanese REITs. Additional results indicate that high leverage ratios may lead banks, armed with more REIT information, to raise interest rates in Japan. Additionally, different types of REITs contribute to this trend. Diversified and residential REITs face higher costs with a bank relationship, while those linked to financial institutions benefit.

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