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The Effect of Bank Relations on Investment Decisions: An Investigation of Japanese Takeover Bids

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ABSTRACT

We study 154 domestic mergers in Japan during 1977 to 1993. In contrast to U.S. evidence, mergers are viewed favorably by investors of acquiring firms. We document a two-day acquirer abnormal return of 1.2 percent and a mean cumulative abnormal return of 5.4 percent for the duration of the takeover. Announcement returns display a strong positive association with the strength of acquirer's relationships with banks. The benefits of bank relations appear to be greater for firms with poor investment opportunities and when the banking sector is healthy. We conclude that close ties with informed creditors, such as banks, facilitate investment policies that enhance shareholder wealth.

IN PERFECT CAPITAL MARKETS, investment choices are independent of financing choices. In the presence of capital market imperfections, however, financing alternatives can have an important influence on firms' investment policies. A vast literature in this area emphasizes the importance of informational asymmetries and the costs of financial distress and agency conflicts. In the presence of such market imperfections, leverage can create incentives to deviate from the optimal investment policy. The asset-substitution problem (Jensen and Meckling (1976)), the underinvestment problem (Myers (1977)), and the overinvestment problem (Stulz (1990)) are well-known examples of such distortions of investment policy.

A possible mechanism to overcome these costs of debt financing is to have creditors who are well informed about firms' prospects and investment opportunities. In this paper, we investigate how the distribution of debt claims between informed and arms-length creditors influences firms' investment choices. We focus on the role of banks as informed intermediaries between

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firms and external capital markets and examine whether firms with close ties to banks are able to overcome some of the distortions to optimal investment choices induced by capital market imperfections.

We use the takeover market in Japan as the setting for our investigation. Japanese firms have historically maintained close ties with a single commercial bank, known as the main bank, that serves as a primary source of debt financing. The main bank also serves as the primary commercial bank for routine financing transactions and is considered well informed about the firm's prospects. Collection and evaluation of information by the bank are facilitated by the frequent presence of bank executives on the boards of client firms. Sometimes, the main bank and borrowing firm belong to a common industrial group known as a keiretsu. These groups are characterized by extensive information sharing through regular meetings of executives to discuss overall corporate objectives and formulate corporate strategy. Thus, a Japanese main bank represents a close approximation to the concept of informed creditor assumed in models of corporate financing choice.

We study the role of Japanese banks on investment choices by examining a comprehensive sample of Japanese domestic mergers from 1977 to 1993. Unlike routine investment decisions, takeover bids provide a natural experiment because they typically represent large and discrete investment choices where detailed public information is reported in a timely manner. This allows us to examine the market's ex ante valuation of these investment decisions. Further, acquisition decisions represent a setting where managerial and shareholder interests frequently diverge. Acquisition announcements in the United States are often greeted negatively by investors, and managers sometimes pursue private objectives during acquisitions at the expense of shareholder wealth.[1] Thus, acquisitions represent an instance where informed creditors can have an important impact on managerial decisions.

Our research design complements other studies that evaluate the role of Japanese banks in overcoming capital market imperfections. Hoshi, Kashyap, and Scharfstein (1991) examine the sensitivity of firms' investment expenditures to liquidity and find that this sensitivity is lower for firms in bank-centered groups. Hoshi et al (1991) argue that firms with close bank ties are able to overcome informational frictions in financing choices and are able to make better investment decisions. Kaplan and Zingales (1997), however, point out that financing constraints may not be monotonically related to the sensitivity of investment to cash flow and question the interpretation of investment–cash flow sensitivity coefficients. Studying investors' valuations of investment decisions thus provides complementary evidence on the role of banks in influencing firms' investment choices.

Our evidence also sheds light on the debate regarding the role of Japanese banks in corporate governance. Diamond (1984) and Fama (1985) view banks as financial intermediaries specializing in the collection and evaluation of

[1] See, for example, Jensen and Ruback (1983), Jarrell, Brickley, and Netter (1988), Morck, Shleifer, and Vishny (1990), and Lang, Stulz, and Walkling (1989, 1991).

client firm information. As argued by Diamond (1991) this informational advantage permits banks to perform a valuable monitoring function. Kaplan (1994), Kaplan and Minton (1994), and Kang and Shivdasani (1995, 1997) find that Japanese firms with close bank ties experience high levels of director appointments, CEO turnover, and asset restructuring during poor performance and conclude that banks perform a valuable monitoring role.

This informational advantage however, can also endow banks with substantial power that can be used ex post to appropriate surplus from client firms (Rajan (1992)). Weinstein and Yafeh (1998) find that firms closely affiliated with main banks tend to pay above market rates of interest on their bank debt. Morck and Nakamura (1999) argue that bank director appointments are precipitated largely by liquidity crises, and they conclude that banks act primarily in the interests of short-term creditors without regard to shareholder wealth. According to this bank power hypothesis, significant bank control has the potential to facilitate acquisitions that serve creditor interests, possibly at the expense of shareholder wealth.

We find that on average, shareholders of acquiring firms in Japan realize a significantly positive two-day cumulative mean abnormal return of 1.2 percent surrounding the initial announcement date. Over the entire takeover window, starting from a day prior to the initial announcement and ending a day after the effective date, the mean cumulative abnormal return is 5.4 percent. The positive and statistically significant announcement return for Japanese acquirers contrasts sharply with much of the evidence on acquiring firms from the United States, which documents either a statistically insignificant or a small negative average stock market reaction for acquisition announcements.

We investigate several explanations for the overall positive market response to acquisitions in Japan, including differences in the method of payment, the high frequency of privately held takeover targets in the sample, possible revelation of bidder-specific information, and the practice of some Japanese bidders making acquisitions to rescue financially distressed targets. These explanations do not appear to explain why Japanese bidders fare better than U.S. acquirers.

The bidders' financial structure prior to the acquisition is important in understanding the cross-sectional variation in bidder returns. We document that the abnormal returns are positively and significantly related to the bidder's preacquisition leverage. Separating total leverage into borrowing from banks and nonbank debt, we find that the extent of borrowings from banks is positively and significantly associated with bidder returns but that nonbank debt has little statistically discernible effect on bidder returns. Among all banks, firms' borrowings from their main bank appear to be particularly important. We find that the fraction of assets financed by debt from main banks prior to the acquisition is positively and significantly related to bidder returns. These results support the hypothesis that the superior information of informed creditors such as main banks helps lower the costs of market imperfections and facilitates shareholder-value-enhancing invest-

ment policies. Our evidence, however, questions the interpretation that Japanese banks act primarily in the interests of creditors without regard to shareholder wealth.

We find that the relation between acquirer returns and main bank linkages is stronger for low-Q acquirers, indicating that the monitoring role of banks is more prominent for firms with relatively poor investment opportunities. We also find that the positive relation between bank financing and acquisition returns is driven primarily by the earlier years in our sample, when bank ties were generally stronger due to stringent bond market regulation. This finding casts doubt on the view that strong bank control is likely to result in investment choices that are detrimental to shareholders. Because banks were in weaker financial health during the latter part of our sample, the results are supportive of the argument advanced by Kang and Stulz (2000) that bank health is an important determinant of the effect of bank relations on client firm value.

Our paper is related to work by Pettway and Yamada (1986), who examine bidder returns in Japanese mergers during 1977 to 1984 and find positive returns around the board meeting date, which is usually the resolution date of the merger. Because the first public announcement typically precedes the board meeting date, sometimes by as much as three years in our sample, board meeting dates are unlikely to be informative. Therefore, we use the initial announcement date to infer the market's ex ante valuation of the merger. In related work, Kang (1993) examines Japanese acquisitions of U.S. firms but does not explore the valuation effect of domestic Japanese mergers.

The paper proceeds as follows. We describe the sample in Section I. Section II presents the evidence on announcement returns and the cross-sectional analysis. Section III concludes.

I. Data

Our sample consists of nonfinancial Japanese acquiring firms that are listed on either the First Section or the Second Section of the Tokyo Stock Exchange (TSE). We identify an initial sample of acquiring firms from the *Shohou* (Gazette) published by the TSE, for which the effective date of the merger is between March 31, 1977, and December 31, 1993. We eliminate cases where the acquirer owned all of the outstanding shares of the target prior to the merger because these cases typically represent instances of internal reorganizations. We identify the initial public announcement date of the merger from four daily newspapers published by Nihon Keizai Shimbunsha: *Nihon Keizai Shimbun* (Nikkei Economic Journal), similar to the *Wall Street Journal* in the United States, *Nikkei Sangyo Shimbun* (Industrial Journal), *Nikkei Ryutuu Shimbun* (Distribution Journal), and *Nikkei Kinyuu Shimbun* (Finance Journal). The date that a merger announcement first appears in any one of these four publications is used as the announcement date. We require acquiring firms to have available stock-price data in the Pacific-Basin Capital Markets (PACAP) Research Center database. We obtain a final sample of 154 observations.

A concern arises as to whether the sampling procedure introduces selection bias. The PACAP database does not contain information on firms that were acquired, went bankrupt, or were delisted. To investigate whether this creates a survivorship bias in the sample, we identify firms that were delisted from the TSE from 1977 to 1993. Over this period, six acquiring firms were delisted. Of these, two firms were merged, one went bankrupt, and three were delisted because of a failure to meet the TSE's minimum capital requirements. Although the lack of complete financial and stock return data preclude us from including these firms in the subsequent analysis, we manually collect stock-price data for these firms from *Nihon Keizai Shimbun* and calculate market-adjusted returns for two- and three-day windows surrounding the acquisition announcement. We find that the results on announcement period returns are qualitatively unchanged when these observations are included.

The frequency of acquirers is relatively low during the beginning of the sample, with 27 of the 154 transactions (17.5 percent of the sample) occurring during the 1976 to 1981 period. The period between 1988 and 1992 represents the most active years of Japanese merger activity with 69 transactions (45 percent of the sample) occurring during this interval. A breakdown of mergers by industry shows that most of the acquiring firms are classified as manufacturing (108 cases), followed by wholesale and retail (25 cases), construction (nine cases), transportation, communications, and utilities (six cases), real estate (four cases), and agriculture, mining, and fisheries (two cases).

Table I shows summary statistics for the sample of acquiring firms. These data are obtained from the *PACAP* database, the *Nikkei* database, the *Analyst's Guide* by Daiwa Institutes of Research Ltd., *Shohou* by the TSE, the *Annual Securities Statistics* by the TSE, *Kigyo Keiretsu Soran*, and acquiring firms' annual and semiannual reports. Panel A reports merger-specific characteristics and the past stock return performance of sample firms.

A noteworthy feature of the sample is that a majority of mergers involve targets that are privately held firms. Of the 154 targets, 108 (70 percent of the sample) are unlisted firms. Thus, for a majority of targets, publicly available financial data are unavailable and we are restricted to the financial data reported in newspaper articles describing the acquisitions.

The mean ratio of book value of target equity to bidder equity is 17 percent, and the mean ratio of transaction value[2] to the market value of the bidder's equity is 16 percent. However, medians for both of these variables are considerably lower, at 3.6 percent and six percent, respectively. Thus, the sample consists largely of targets that are much smaller than the ac-

[2] We measure the value of the transaction as the sum of cash and the value of common stock paid to the target. Common stock paid is valued as the number of the acquiring firm's shares issued to the target multiplied by the acquiring firm's stock price per share at the end of the fiscal year preceding the merger announcement. In computing the value of the transaction, target shares held by the bidder are excluded from the number of shares outstanding to avoid double counting.

Table I

Summary Statistics for Japanese Bidders

The sample consists of 154 Japanese bidders listed on the Tokyo Stock Exchange for which the effective date of the merger is between March 31, 1977, and December 31, 1993, and an announcement date can be obtained from the *Nihon Keizai Shimbun, Nikkei Sangyo Shimbun, Nikkei Ryutuu Shimbun*, or *Nikkei Kinyuu Shimbun*. Leverage ratio is computed as the ratio of the book value of total debt to the sum of the book value of debt and the market value of equity. Bank loan ratio is computed as the ratio of the book value of debt from financial institutions to the sum of the book value of debt and the market value of equity. Main bank loan ratio is computed as the ratio of the book value of debt from the main bank to the sum of the book value of debt and the market value of equity.

Variable	Mean	Median	Standard Deviation
Panel A: Merger-Specific/Performance Variables			
Fraction of privately held targets	0.703	—	—
Fraction of firms involved in related mergers	0.697	—	—
Target book equity/bidder book equity	0.166	0.036	0.794
Value of the transaction/market value of bidder equity	0.164	0.060	0.262
Value of transaction (billions of yen):			
Cash paid	0.045	0.000	0.178
Common stock paid	18.092	3.331	47.442
Fraction of mergers involving cash financing	0.383	—	—
Target equity ownership held by bidders prior to the merger announcement (%)	24.09	4.56	29.24
Excess return over industry (%) (−220 to −20 days before the merger announcement)	0.039	0.025	0.211
Fraction of firms involved in rescue mergers	0.10	—	—
Panel B: Firm-Specific/Governance Variables			
Total assets (billions of yen)	288	81	534
Sales (billions of yen)	448	78	128
Market value of equity (billions of yen)	204	67	455
Leverage ratio	0.516	0.495	0.225
Public debt ratio	0.035	0.002	0.046
Bank loan ratio	0.207	0.177	0.169
Main bank loan ratio	0.036	0.029	0.033
Management ownership (%)	3.29	0.43	7.10
Fraction of firms belonging to a bank-centered group	0.66	—	—

quirers but does include a few relatively large transactions. This pattern is consistent with the observation by Kester (1991) that most Japanese merger and acquisition activity is concentrated among small and unlisted target firms.

Using the three-digit SIC codes provided by the PACAP, and assigning SIC classifications for targets from the newspaper descriptions when needed, we find that 70 percent of our sample firms acquire target firms operating

in the same industry.[3] Ninety-seven firms finance the entire transaction through an exchange of common stock, and 57 firms use a combination of common stock and cash as the form of payment when they acquire targets. For these 57 firms, the ratio of cash paid to total transaction value averages 2.5 percent, indicating that even when cash is used, it represents only a small fraction of the transaction value.

In 15 cases, representing 10 percent of the sample, the newspaper story notes that the bidder is acquiring the target for rescue purposes. In two of these cases, rescuing the target is mentioned as the explicit reason for the merger. In the other 13 cases, the article refers to the poor performance or financially distressed status of the target. Of these 15 rescue mergers, the bidder is affiliated with a financial group in seven cases.

Panel A also shows that Japanese acquiring firms hold a relatively large fraction of target shares before the merger announcement, with a mean of 24 percent. We measure the past performance of acquirers using cumulative excess stock returns relative to industry. We compute the industry-adjusted cumulative excess stock return from 220 days to 20 days before the merger announcement using the value-weighted Tokyo Stock Price Index (TOPIX) for each industry. The mean and median prior industry-adjusted returns are 3.9 percent and 2.5 percent, respectively, and are statistically significant at the 0.05 level.[4] Thus, the bidders in the sample are generally well-performing firms, similar to the pattern documented by Harford (1998) for U.S. bidders.

Panel B of Table I shows summary statistics for firm-specific and governance characteristics for the sample firms for the fiscal year prior to the acquisition announcement. The market value of bidder equity averages ¥204 billion, and the mean book value of assets is ¥288 billion. Leverage, measured as the book value of total debt divided by the sum of book value of debt and the market value of equity, averages 52 percent. We define the bank loan ratio as the ratio of a firm's total borrowings from financial institutions as a fraction of the sum of the book value of debt and the market value of equity, and find that it averages 21 percent. Accounts payables, notes payables, deferred taxes, straight bonds, and convertible bonds account for the difference between total debt and bank borrowings. Hereafter, we refer to this difference as other debt.

Because the literature emphasizes the special role of main banks in Japan, we compute the main bank loan ratio as the fraction of a firm's total borrowings from its main bank to the sum of book value of debt and the market value of equity. Following Hoshi, Kashyap, and Scharfstein (1990) and Aoki, Patrick, and Sheard (1994), we define the main bank as the firm's largest

[3] As an alternative measure of industrial relatedness, we examine the newspaper reports describing the transaction to discern whether the target and bidder were in related businesses. Our results are essentially unchanged if we use a measure of industrial relatedness based upon the descriptive information in press reports.

[4] The positive prior stock return performance in the sample raises the possibility that CARs computed using market model parameters prior to the event may be biased. We obtain virtually identical results however, when market-adjusted returns are used.

lender, and we collect these data from issues of *Kigyo Keiretsu Soran*. Because these data are generally unavailable to us prior to 1980, our tests employing this variable are conducted over a slightly smaller sample, though our results are similar if we use the bank loan ratio and the entire sample period instead. For the sample firms, main bank borrowing averages 3.6 percent of the sum of book value of debt and equity and ranges from 0 to 14.6 percent.

We collect data on the equity ownership by managers, shown to be an important determinant of bidder returns in the United States (Lewellen, Loderer, and Rosenfeld (1985)). On average, equity ownership by the board of directors is 3.3 percent of the firm's outstanding shares. Following Nakatani (1984), we identify each firm's affiliation to a bank-centered keiretsu using various issues of *Keiretsu No Kenkyu*. Our procedure follows Nakatani (1984) in classifying firms to be part of a group if they are identified as members of the Mitsubishi, Mitsui, Sumitomo, DKB, Fuyo, or Sanwa groups. According to this classification, 66 percent of our sample firms belong to a bank-centered group.

II. Empirical Results

A. *Univariate Analysis*

Abnormal returns are computed using standard event-study methodology following Dodd and Warner (1983). Market model parameters are estimated using days -220 to -20 relative to the first merger announcement. The daily abnormal return is compounded to get the cumulative abnormal return (CAR) from day t_1 before the merger announcement date to day t_2 after the merger announcement date. We use t-statistics to test the hypothesis that the average CARs are equal to zero and sign-rank test statistics to test the hypothesis that the CARs are distributed symmetrically around zero. We obtain similar results when we compute abnormal returns using the methodology of Scholes and Williams (1977).

Table II reports the mean and median CARs for 154 Japanese acquiring firms around the announcement date (AD) and the effective date (ED) of mergers. The mean CAR (AD $-$ 1, AD) is 1.17 percent, and the mean CAR (AD $-$ 1, AD + 1) is 0.90 percent, which are significant at the 0.01 and 0.05 levels, respectively. The sign-rank test also indicates that the median CAR (AD $-$ 1, AD) is significantly different from zero at the 0.06 level. Using an 11-day window surrounding the initial announcement, we find a mean CAR (AD $-$ 5, AD + 5) of 2.22 percent and a median of 0.38 percent. Both t-tests and sign-rank tests indicate statistical significance at the 0.05 level or lower. These results for Japanese bidder returns around the announcement date contrast with those for U.S. bidders. Considerable evidence in the United States (Jensen and Ruback (1983)) suggests that bidder returns in friendly acquisitions are at best close to zero and sometimes significantly negative. Table II also shows that the CAR for the two-day window surrounding the effective date of the merger, CAR (ED $-$ 1, ED), is statistically insignificant,

Table II

Cumulative Abnormal Returns (CARs) for Japanese Bidders

The sample consists of 154 Japanese bidders listed on the Tokyo Stock Exchange for which the effective date of the merger is between March 31, 1977, and December 31, 1993, and an announcement date can be obtained from the *Nihon Keizai Shimbun*, *Nikkei Sangyo Shimbun*, *Nikkei Ryutuu Shimbun*, or *Nikkei Kinyuu Shimbun*. Cumulative abnormal returns are computed from a market model estimated from days −220 to −20 relative to the announcement. AD denotes the initial announcement date, and ED denotes the effective date of the merger completion. *p*-values for *t*-tests are reported in parentheses below the mean, and *p*-values from sign-rank tests are reported in parentheses below the median.

Interval	Mean CAR	Median CAR
AD − 1 to AD	0.0117[a]	0.0022[c]
	(0.006)	(0.062)
AD − 1 to AD + 1	0.0090[c]	0.0014
	(0.051)	(0.327)
AD − 5 to AD + 5	0.0222[a]	0.0038[b]
	(0.004)	(0.047)
ED − 1 to ED	0.0027	−0.0002
	(0.295)	(0.777)
AD − 1 to ED + 1	0.0537[b]	0.011[b]
	(0.043)	(0.022)

a, b, c denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed).

consistent with evidence for the United States (Vijh (1994)). Over the entire duration of the transaction, from one day prior to announcement to one day following completion, the CAR (AD − 1 to ED + 1) is 5.37 percent (mean) and 1.10 percent (median), with both *t*-tests and sign-rank tests indicating statistical significance at the 0.05 level. Overall, these univariate results indicate that Japanese bidders experience a statistically significant average positive stock price response to merger announcements.

Table III partitions the sample according to some key characteristics of the acquirer and the merger and compares the two-day announcement return across these characteristics. We first separate bidders according to whether or not they belong to a bank-centered group. The average CAR (AD − 1, AD) is 1.2 percent for firms that belong to a group, which is statistically indistinguishable from the 0.5 percent CAR (AD − 1, AD) for non-group firms. To examine whether the CARs vary by the industrial relatedness of the merger (Morck et al. (1990)), we separate the sample according to whether the bidder and the target are in the same or different industries. We do not find noticeable differences in announcement returns across related and unrelated mergers, although a positive mean two-day return is only evident in the subsample of related transactions.

Anecdotal evidence suggests that sometimes healthy group firms acquire smaller group companies in financial distress that are perhaps important suppliers or subcontractors to the group. As discussed above, 15 of the acqui-

Table III

Two-Day Cumulative Abnormal Returns (CARs) for Japanese Bidders Categorized by Transaction and Bidder specific Attributes

The sample consists of 154 Japanese bidders listed on the Tokyo Stock Exchange for which the effective date of the merger is between March 31, 1977, and December 31, 1993, and an announcement date can be obtained from the *Nihon Keizai Shimbun*, *Nikkei Sangyo Shimbun*, *Nikkei Ryutuu Shimbun*, or *Nikkei Kinyuu Shimbun*. Cumulative abnormal returns are computed from a market model estimated from days −220 to −20 relative to the announcement. Leverage ratio is computed as the ratio of the book value of total debt to the sum of the book value of debt and the market value of equity. Bank loan ratio is computed as the ratio of the book value of debt from financial institutions to the sum of the book value of debt and the market value of equity. Main bank loan ratio is computed as the ratio of the book value of debt from the main bank to the sum of the book value of debt and the market value of equity. p-values for t-tests are reported in parentheses below the mean, and p-values from sign-rank tests are reported in parentheses below the median.

	Number of obs.	Mean CAR (AD − 1, AD)	Median CAR (AD − 1, AD)	t-Test (p-value)	Wilcoxon Test (p-value)
Acquiring firm belongs to bank-centered group	100	0.012[a]	0.003[b]	0.79	1.48
		(0.00)	(0.02)	(0.43)	(0.14)
Acquiring firm is independent of bank-centered group	54	0.005	−0.002		
		(0.54)	(0.88)		
Acquirer and target are in same industry	104	0.014[b]	0.003	0.75	0.19
		(0.02)	(0.12)	(0.45)	(0.84)
Acquirer and target are in different industries	50	0.008	0.001		
		(0.16)	(0.34)		
Acquisition motivated by rescue purposes	15	−0.012[c]	−0.005[b]	3.27	2.13
		(0.10)	(0.04)	(0.00)	(0.03)
Acquisition not motivated by rescue purposes	136	0.015[a]	0.004[a]		
		(0.00)	(0.01)		

Method of payment involves only equity	95	0.010[b]	−0.000	0.49	0.75
		(0.05)	(0.32)	(0.62)	(0.46)
Method of payment involves combination of cash and equity	59	0.014[c]	0.005[c]		
		(0.06)	(0.07)		
Large acquirers (market value of equity is above sample median)	77	0.011[b]	0.002	0.13	0.64
		(0.03)	(0.12)	(0.90)	(0.52)
Small acquirers (market value of equity is below sample median)	77	0.010	0.003		
		(0.13)	(0.34)		
Acquirer's leverage ratio is above sample median	77	0.016[a]	0.008[a]	1.08	1.84
		(0.00)	(0.01)	(0.28)	(0.07)
Acquirer's leverage ratio is below sample median	77	0.007	−0.002		
		(0.27)	(0.99)		
Acquirer's bank loan ratio is above sample median	77	0.023[a]	0.006[a]	2.91	2.65
		(0.00)	(0.00)	(0.00)	(0.01)
Acquirer's bank loan ratio is below sample median	77	−0.001	−0.002		
		(0.91)	(0.54)		
Acquirer's main bank loan ratio is above sample median	68	0.015[a]	0.006[b]	2.02	1.65
		(0.01)	(0.04)	(0.04)	(0.10)
Acquirer's main bank loan ratio is below sample median	67	−0.000	−0.001		
		(0.92)	(0.76)		

a, b, c denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed).

sitions in the sample could be considered as instances of such rescue mergers. A priori, it is unclear what effect such transactions have on acquirer returns. If the cost of rescuing a distressed firm is outweighed by the benefits from continued business relations, such acquisitions should be value-increasing events. If, however, acquirers are coerced into such acquisitions by influential entities such as banks or regulatory agencies, the effect on bidder market value could be detrimental. In particular, such rescue mergers may represent instances where a bank, acting primarily as a creditor, may force a client firm to bail out another distressed firm to which the bank is also a creditor.

As shown in Table III, the market reaction to rescue mergers differs substantially from other mergers. Mean and median two-day returns are −1.2 percent and −0.5 percent for rescue mergers and are statistically significant at the 0.10 and 0.05 levels using *t*-tests and sign-rank tests, respectively. In contrast, mean and median returns are 1.5 percent and 0.4 percent respectively for nonrescue transactions and are significant at the 0.01 level. The equality of CARs for rescue versus nonrescue transactions is rejected at the 0.01 level.[5]

An important issue is whether our results are driven entirely by the method of payment. We compare the announcement returns for all-equity offers and offers partially financed by cash. Asquith, Bruner, and Mullins (1987) and Travlos (1987) find that acquisitions financed by equity are associated with negative announcement returns because equity issuance tends to reveal adverse information about acquiring firms. In contrast to the negative market response for equity issuance in the United States, Kang and Stulz (1996) show a significantly positive announcement effect for equity issuers in Japan. Because a large majority of the mergers in the sample are financed entirely by stock, the positive average CAR for bidders may simply be an artifact of the positive announcement effect for equity issues in Japan.

We conduct several tests to examine this possibility. First, we divide the sample according to the method of payment. Mean and median CARs are positive and significant at the 0.10 level for offers financed partially with cash, and they display no statistical difference from offers that are entirely equity financed. This result should be interpreted with caution, however, because even in the offers involving cash, the extent of cash financing tends to be very small.

As an alternative test, we examine the CARs for large and small acquirers. Kang and Stulz (1996) find a strong difference in the announcement effect for equity issues between small and large firms. They show that the equity issuance announcement effect in Japan is significantly positive for small firms but that it is significantly negative for large firms. Therefore, if the positive bidder CARs for our sample are an artifact of the equity issu-

[5] We explore whether the negative returns for bailout acquisitions are driven by acquirers that are closely linked to a financial keiretsu. We find that the CARs for rescue acquisitions made by bidders belonging to a keiretsu are similar to those by nonkeiretsu acquirers. We also check if the other acquirers affiliated with the four groups involved in rescue acquisitions (Mitsubishi, Sanwa, Sumitomo, and DKB) have worse CARs, but we do not detect such a pattern.

ance effect in Japan, we expect that bidder CARs should be positive for small acquirers, and negative for large acquirers. Table III shows, however, that the CARs for acquirers whose market value is above and below the sample are both positive and are statistically indistinguishable.

Kang and Stulz (1996) also find that the announcement returns for equity issuance in Japan are the most negative for large firms with high price-to-earnings ratios. In untabulated tests, we also examine CARs for the bidders that have both above median firm size and price-to-earnings ratio. For this subsample of 31 bidders, the average CAR is 0.17 percent and is statistically indistinguishable from zero. Finally, we also examine the bidder CARs for individual years. Kang and Stulz (1996) note that the positive CARs for equity issues in their sample are driven by the high frequency of equity issues in 1985 and 1987. When we exclude these years from our sample, we obtain a significantly positive average CAR of 1.1 percent. In sum, the predominance of equity financing in our sample makes it difficult to rule out the possibility of an equity issuance effect in interpreting the bidder CARs, but our sample does not display variation in CARs that is representative of an equity issuance effect.

The financial structure of acquirers is important in understanding the variation in announcement returns. For firms with above the median level of leverage prior to the merger, the mean CAR is 1.6 percent, with a median of 0.8 percent. Both t-tests and sign-rank tests reject equality from zero at the 0.01 level. CARs for acquirers with below median leverage are indistinguishable from zero. The difference in CARs is more pronounced if the sample is partitioned according to the degree of bank borrowings or the extent of borrowings from the firm's main bank. Bidder returns are significantly positive for firms in the above median subsample of these variables, whereas they are not significantly different from zero in the below median categories of these variables. Equality of CARs across subsamples partitioned according to borrowings from all banks and main banks is rejected using both t-tests and Wilcoxon sign-rank tests.

Because main bank ties appear to be important in determining bidder CARs, we explore the CARs when the bidder's main bank is also the target's main bank. In these cases, it is possible that the bank's superior information regarding the value of the target firm allows the acquirer to make a more informed bid and hence avoid the possibility of overpayment. We are able to identify 17 instances where the bidder's main bank is also the target's main bank and 39 cases where it is a lender to the target.[6] In unreported tests, we find that the bidder CARs are indistinguishable across subsamples stratified according to the main bank's status as a lender to the target. Thus, main banks do not appear to influence bidder CARs by providing bidders with superior information regarding the target.

[6] Because a large portion of the targets are small privately held firms, we collect this information from past volumes of *Kaisha Soukan*, which provides information on privately held firms in Japan. We are able to collect these data for 62 targets; hence these tests are conducted using a reduced sample.

B. Multivariate Analysis

We turn to a multivariate analysis of the announcement returns, using the CAR (AD − 1, AD) as the dependent variable in Table IV. The regressions control for the fraction of the firm's outstanding shares held by bidding firm managers and the fraction of the target's outstanding shares held by the bidder prior to the merger announcement. We include an indicator that equals one if the offer is partly financed with cash and an indicator to denote industrially related mergers. All models include firm size and indicator variables for the year of the acquisition as additional controls. We measure firm size as the logarithm of the market value of outstanding equity as of the fiscal year end prior to the offer.

All regressions include the relative size of the acquisition, computed as the ratio of the value of the transaction as a fraction of the bidder's market value of outstanding equity. If larger transactions yield larger synergies or scale economies, one might expect such transactions to be associated with higher CARs. Alternatively, if a large acquisition is motivated by bidding managers' desires to expand their firm beyond the optimal size to increase resources under their control (Jensen (1986)), a negative relation between the size of the target and bidder returns might be expected.

We also include an indicator variable for targets that are privately held. Chang (1998) finds that acquisitions of privately held firms in the United States are associated with significantly positive announcement returns. He attributes this to the increase in the bidder's ownership concentration that results from the acquisition of private firms. Because over two-thirds of our sample transactions involve privately held targets, this offers a potential explanation for the positive announcement returns observed in the sample.

It is also possible that the announcement of an acquisition conveys favorable information to investors regarding the value of the bidder's existing assets. If banks or other controlling entities approve acquisitions only when they have favorable inside information regarding the value of the firm's assets, the announcement returns will contain a positive information revelation component. This information revelation should be more pronounced for firms where the market's ex ante perception of firm value is dim. To test this prediction, the regressions include the acquirer's Tobin's Q, estimated as the ratio of the sum of book value of debt and market value of equity to the book value of assets. As an alternative measure, we also include the bidder's stock return net of the industry return over the period 220 days to 20 days prior to the acquisition announcement. The information revelation argument predicts that bidder CARs are negatively related to these measures.

A concern is the degree to which bank financing is endogenously determined. If firms with good investment opportunities borrow extensively from banks, and if the acquisitions are simply the realization of these valuable opportunities, we might detect a spurious relation between bank financing and bidder CARs. In unreported tests, we use the three-year lagged value of borrowings from banks and from main banks as instrumental variables and

obtain results very similar to those reported using the prior year's financing arrangements. The reported results are thus robust to this basic check for endogeneity.[7]

In model (1) of Table IV, we estimate bidder CARs as a function of total leverage and the above control variables. The CARs display a strong positive association with the bidder's total leverage that is significant at the 0.01 level. Evaluating the estimated coefficient at the mean suggests that a one standard deviation increase in total leverage results in CAR that is higher by 1.67 percent. The effect of leverage on investors' ex ante valuations of merger announcements appears to be both statistically and economically important.

Neither Tobin's Q nor the prior stock return performance is negatively related to CARs, contrary to the prediction of the information revelation argument. Instead, we find that acquisitions by well-performing bidders are greeted more favorably by investors. Lang et al. (1989), Morck et al. (1990), and Servaes (1991) find similar results among U.S. acquirers.

Confirming the univariate results, CARs do not vary according to firm size.[8] Offers financed partially by cash display CARs that are statistically indistinguishable from pure stock exchange offers. We obtain similar results if we use the fraction of the transaction value paid in cash instead of the indicator variable for cash-financed acquisitions.

Acquisitions of privately held targets appear to be perceived no differently than acquisitions of publicly held firms, suggesting that the overall positive CARs observed for our sample cannot be attributed to the unlisted status of the majority of target firms. Finally, mergers motivated by rescue considerations are estimated to have an adverse effect on CARs.

In model (2), we further investigate the results on total leverage by separating it into bank debt and other debt.[9] This model reveals that the effect of bank debt is clearly different from nonbank debt. The coefficient on bank

[7] We also estimate the regressions in a simultaneous equation framework, where the fraction of bank borrowings is specified as a function of firm size, leverage, Tobin's Q, and the standard deviation of the residual from a market model regression of monthly stock returns for the prior 60 months, following Hoshi, Kashyap, and Scharfstein (1994) and Anderson and Makhija (1999). We obtain similar results to those reported but recognize that a drawback of this approach is that the instruments used to estimate bank debt are also potential determinants of the bidders' CARs.

[8] In unreported tests, we also estimate the effect of firm size by including indicator variables for whether the acquirer's market value of equity is above or below the sample median. These results suggest that there is no significant difference among the CARs for large and small acquirers.

[9] As an alternative specification, we estimate the model using total leverage and the ratio of bank debt to total leverage. We find that the coefficients are estimated less precisely with this approach because these two variables are highly correlated. When we include only total leverage or the fraction of debt from banks in the model, the estimated coefficient is positive and significant. However, the significance of both variables is reduced when they are included simultaneously. Because these two variables are highly correlated, the proportion of debt financing from banks tends to underestimate the extent of bank financing provided by banks for firms that maintain close bank ties.

Table IV

Regression Estimates of Two-Day Cumulative Abnormal Returns for Japanese Bidders

The sample consists of 154 Japanese bidders listed on the Tokyo Stock Exchange for which the effective date of the merger is between March 31, 1977, and December 31, 1993, and an event date can be obtained from the *Nihon Keizai Shimbun*, *Nikkei Sangyo Shimbun*, *Nikkei Ryutuu Shimbun*, or *Nikkei Kinyuu Shimbun*. Leverage ratio is computed as the ratio of the book value of total debt to the sum of the book value of debt and the market value of equity. Bank loan ratio is computed as the ratio of the book value of debt from financial institutions to the sum of the book value of debt and the market value of equity. Main bank loan ratio is computed as the ratio of the book value of debt from the main bank to the sum of the book value of debt and the market value of equity. Other debt ratio is computed as the ratio of the book value of non-bank debt to the sum of the book value of debt and the market value of equity. Tobin's Q is computed as the ratio of the sum of book value of debt and market value of equity to the book value of assets. Cash reserves are computed as the ratio of cash and marketable securities to the sum of book value of debt and market value of equity. All models include indicator variables for the year of the transaction. p-values for two tailed tests appear in parentheses below coefficient estimates.

Explanatory Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Log of bidder market value of equity	−0.002	−0.003	0.003	0.002	0.002	0.003	0.002
	(0.538)	(0.372)	(0.319)	(0.508)	(0.437)	(0.341)	(0.496)
Value of transaction/market value of bidder equity	0.025	0.021	0.012	0.005	0.014	0.007	0.017
	(0.186)	(0.256)	(0.562)	(0.827)	(0.511)	(0.745)	(0.429)
Prior bidder industry-adjusted stock return	0.038[c]	0.037[c]	0.038[c]	0.045[b]	0.037[c]	0.027	0.038[c]
(−220 to −20 days before merger announcement)	(0.082)	(0.088)	(0.088)	(0.054)	(0.100)	(0.218)	(0.083)
Bidder's Tobin Q	0.014	0.010	0.003	0.006	0.003	0.017	0.005
	(0.233)	(0.379)	(0.775)	(0.518)	(0.782)	(0.114)	(0.639)
Related acquisition (indicator variable)	−0.005	−0.005	−0.004	−0.005	−0.003	−0.008	−0.006
	(0.646)	(0.606)	(0.682)	(0.596)	(0.715)	(0.421)	(0.500)
Method of payment includes cash (indicator variable)	−0.007	−0.006	−0.003	−0.006	−0.002	−0.002	−0.004
	(0.465)	(0.478)	(0.727)	(0.544)	(0.841)	(0.863)	(0.645)
Target equity ownership by bidder prior to announcement	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.11)	(0.276)	(0.500)	(0.556)	(0.349)	(0.656)	(0.486)

Management equity ownership	0.000	0.000	0.000	0.000	0.000	−0.001	0.000
	(0.679)	(0.846)	(0.812)	(0.901)	(0.557)	(0.390)	(0.728)
Target is privately held firm (indicator variable)	−0.005	−0.008	−0.006	−0.008	−0.005	−0.007	0.005
	(0.677)	(0.489)	(0.616)	(0.469)	(0.646)	(0.521)	(0.640)
Rescue merger (indicator variable)	−0.027[c]	−0.020	−0.024	−0.025	−0.020	−0.021	−0.021
	(0.094)	(0.204)	(0.114)	(0.107)	(0.190)	(0.171)	(0.172)
Leverage ratio	0.074[a]						
	(0.014)						
Bank loan ratio		0.103[a]					
		(0.002)					
Main bank loan ratio			0.380[a]	−0.015	0.423[c]	0.034	0.554[a]
			(0.009)	(0.950)	(0.073)	(0.212)	(0.002)
Other debt ratio		0.033	0.034	0.033		0.046	0.038
		(0.414)	(0.352)	(0.354)		(0.208)	(0.290)
Main bank loan ratio × Bidder's Tobin Q is below sample median (indicator variable)				0.496[b]			
				(0.048)			
Bidder is member of financial group (indicator variable)					0.008		
					(0.565)		
Main bank loan ratio × Bidder is member of financial group (indicator variable)					0.015		
					(0.960)		
Cash reserves						0.197[c]	
						(0.059)	
Main bank loan ratio × Cash reserves						0.160	
						(0.921)	
Main bank loan ratio × 1987–1993 subperiod (indicator variable)							−0.456[c]
							(0.086)
Adjusted R^2	0.284	0.309	0.298	0.323	0.319	0.353	0.317
Number of observations	154	154	136	136	134	131	136

a, b, c denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed).

debt is estimated to be positive and significant at the 0.01 level. Evaluating the coefficient at the mean suggests that an increase in the ratio of bank debt to firm value by one standard deviation is associated with a 1.74 percent increase in the average CAR. In contrast, the coefficient on nonbank debt to firm value is statistically indistinguishable from zero.

As prior studies emphasize, Japanese firms appear to maintain a unique relationship with their main bank. In model (3), we include the fraction of the debt from the firm's main bank to firm value. Supporting the idea that informational and monitoring advantages are important, we find that CARs are positively and significantly related to a firm's borrowings from its main bank. This pattern is consistent with the popular notion that Japanese main banks perform an important monitoring function.

To understand the circumstances under which this monitoring is more beneficial, we examine whether the results vary across high- and low-Q acquirers. As shown by Lang et al. (1989) and Servaes (1991), low-Q acquirers in the United States are more likely to undertake value-reducing acquisitions because their alternative investment opportunities are relatively unattractive. Because this effect is also present among Japanese firms, bank monitoring can perform a potentially valuable role in deterring such acquisitions. In model (4) of Table IV, we include an interaction term between the main bank debt ratio and an indicator if the acquirer's Tobin's Q is below the sample median. This interaction displays a significantly positive coefficient. This result is consistent with the view that poorly performing firms are more likely to benefit from bank oversight.

Our findings so far indicate that, on average, close main bank ties are associated with shareholder-value-enhancing acquisitions. This suggests that the benefits of bank monitoring outweigh the costs of bank power during acquisition decisions. To more closely examine the implications of the bank power hypothesis, we identify circumstances where banks are expected to be influential. In circumstances where banks are influential and exercise their informational monopoly to extract private benefits, the gains to shareholders should be less. Therefore, if banks promote acquisitions to favor their interests as creditors at the expense of shareholders, the positive association between shareholder returns and bank ties should be less pronounced in these cases.

We postulate that main banks are more influential in firms that belong to a bank-centered group. In these groups, banks may be concerned about maximizing the value of all firms in the group, and maximization of individual firm value might be a less important objective. Additionally, because firms in bank-centered groups have long-standing relations with the main bank, the bank's informational monopoly should be stronger, because the decision to seek financing from alternative sources is likely to constitute a highly negative signal of firm quality.

In model (5), we estimate the basic model including an indicator variable for membership in a bank-centered group and an interaction term between this indicator and the main bank loan ratio. According to the bank power

argument, the coefficient on the interaction term should be negative. The results indicate, however, that neither the indicator for bank group membership nor the interaction term is statistically significant. These results do not support the view that banks disregard shareholder interests in firms that are not part of bank-centered groups.

Banks are arguably more powerful in circumstances when the need for bank financing is greater. We expect the need for bank financing to be greater when the firm's internal cash reserves are insufficient to finance the acquisition. We examine the magnitude of cash reserves by computing the ratio of cash and marketable securities to the acquirer's market value. In model (6), we include this variable and its interaction with the main bank loan ratio as additional explanatory variables. According to the bank power hypothesis, banks have more power when firms have fewer cash reserves, and hence acquisition returns should be lower. This argument predicts a positive coefficient on the interaction term. However, this interaction term is estimated to be insignificant, suggesting no discernable differences in the effect of bank loans for firms with low and high cash reserves.

We explore the importance of bank dependence further by examining our results for both the earlier and later years within the sample periods. During most of the 1970s and the early 1980s Japanese firms were subject to stringent criterion for issuing bonds and hence faced a greater reliance on bank debt. These bond issuance criterion were relaxed during the 1980s, permitting firms greater access to public debt markets (Campbell and Hamao (1994)). To the extent that bank influence is greater during the early periods of the sample, the bank power argument would suggest that the benefits of close bank relations should accrue to the banks instead of their borrowers during this period.

To explore this, we examine the effect of bank financing before and after 1987, when relaxed bond issuance criterion were introduced.[10] Model (7) includes an interaction term between the main bank loan ratio and an indicator for whether the acquisition occurs after 1987. This interaction is negative and statistically significant and indicates that the positive association between the bank loan ratio and CARs holds primarily during the early years of our sample. In the later years, when firms can access public bond markets more readily, this positive association is lacking. This evidence does not provide much support for the view that banks act primarily in creditors' interests when their influence over borrowers is high.

The lack of a positive relation between bank financing and acquisition CARs in later years is consistent with arguments advanced by Gibson (1995) and Kang and Stulz (2000). They argue that bank relations are unlikely to be valuable in circumstances when banks perform poorly. Because the Japanese banking sector was particularly weak during the latter portion of the

[10] Although bond markets were gradually deregulated during the latter portion of the 1980s, with less stringent provisions introduced in 1987 and 1989, Campbell and Hamao (1994) document a sharp increase in public debt issuance after 1987.

sample, our results are consistent with these predictions. Thus, our results offer support for the view that the benefits of bank relations are diminished in times when the banks themselves are performing poorly.

III. Conclusions

We study the role of banks in investment decisions using a comprehensive sample of domestic mergers among Japanese firms during 1977 to 1993. We document that Japanese acquirers experience significantly positive and economically meaningful abnormal returns at the acquisition announcement. This contrasts with the evidence on negative or statistically insignificant abnormal returns for acquisition announcements by U.S. firms during this period.

Announcement period returns for Japanese acquirers are related to the extent of prior financing arrangements with banks. Firms with close ties to banks, measured by the fraction of assets financed by bank debt and by main banks, experience significantly higher cumulative abnormal returns at the acquisition announcement. This result supports the proposition that close ties with main banks overcome the informational and monitoring costs associated with external financing, resulting in improved investment decisions. We find that these advantages of bank financing are more pronounced when bidders are performing poorly.

We explore several other explanations for the overall positive announcement return observed for Japanese acquirers. We investigate whether acquisition announcements convey favorable private information about the value of the bidders' assets, whether they vary according to the method of payment or the industrial relatedness of the target and acquirer, whether the acquisition was intended to rescue a distressed target, and whether the transaction involved a privately held target. We find that these factors do not explain the overall positive announcement return.

Our evidence points to a role for bank relations in Japan that is consistent with shareholder wealth maximization. We do however, find limited evidence consistent with the argument that Japanese banks exercise strong control over client firms. We find weak evidence that in cases where banks' interests as creditors may be paramount, such as in mergers motivated by rescue considerations, where observed stock-price responses are lower. Such instances are relatively infrequent however, and the statistical evidence for this pattern is weak in multivariate analysis. We conclude that close relationships with informed creditors, such as banks, influence firms' investment decisions and facilitate shareholder-wealth-maximizing investments.

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