Internal Corporate Restructuring and Firm Value: the Japanese Case

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Abstract

We analyze the impact of corporate restructuring on firm value using 132 Japanese corporate restructurings created between the years of 2001 and 2003 (since the establishment of the new Japanese "spin-in" law in 2001). This Japanese restructuring is unique in that a division becomes a new independent subsidiary but still remains under the control of the parent company. This unique feature enables us to examine whether corporate *internal* restructuring affects firm value and efficiency of internal capital markets, while keeping the scope and scale of the internal capital market intact.

We find significant positive average cumulative abnormal returns around the announcements. Also, we find that both excess value and investment sensitivity have increased after spin-in transactions. We provide further evidence that changes in firm value and efficiency of internal capital markets are related to the different corporate structures – *keiretsu* affiliation and bank relationships. Our results are consistent with the hypothesis that the recent Japanese restructurings reduce information asymmetries and agency problems, thus improving firm value and internal capital markets' efficiency.

Keywords: Corporate restructuring; Agency problems; *keiretsu*, *Internal Capital Markets*.

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Introduction

We have witnessed an interesting cycle of empirical investigation into the efficiency of internal capital markets. Last decade or so, a wealth of empirical evidence of inefficient internal capital markets has been accumulated. For example, Berger and Ofek (1995) and Scharfstein (1997) show that conglomerates invest more in divisions with poor investment opportunities and thus reducing overall firm value. Lamont (1997) show that negative shock in oil business also adversely affected investment in non-oil divisions in the same firm, indicating inefficient allocation of capital. Similarly, Shin and Stulz (1998) also provide evidence of inefficient allocation of internal resources. Bolton and Scharfstein (1998) suggest that one of major drawback of internal capital markets is corporate politicking among divisions. Managers in weak divisions may spend excessive time and effort in obtaining corporate rents and/or compensations (Meyer, Milgrom, and Roberts, 1992; Scharfstein and Stein, 2000).

However, more recent developments have provided ample evidence raising serious questions about the validity of the previous empirical works, especially based on endogeneity problems embedded in much of the empirical work. For example, Chevalier (2004) reports an investment pattern between two firms before mergers, similar to that found in Shin and Stulz (1996). Thus, she argues that the cross-subsidization patterns in the literature may be due to selection bias. This selection bias or endogeneity problem has been raised in such work as Villalonga (1999, 2004), Graham, Lemmon, and Wolf (2002), and Campa and Kedia (2002). Basically, these studies argue that diversification

itself does not destroy firm value.[1] Through all this debate, there came about one consensus that some conglomerates enhance value while others destroy it. Consequently, the consensus dictates that we should focus more on cross-sectional variations in efficiency among conglomerates than on their average (in)efficiencies. Thus, a basic but fruitful research is to investigate how conglomerates can create or destroy value.

The purpose of this paper is to take this new direction by asking a very fundamental question – what factors make a conglomerate firm as a more efficient organization? We conveniently categorize them into two major internal and external factors. The internal factors include internal corporate environments that determine information efficiency and incentive structure.[2] The external factors pertain to external market environments or structures including access to external capital, market monitoring, and financial market.[3] Recently, Billet and Mauer (2003) examine the relationship between excess value of diversified firms and the value of internal capital markets and find that the efficiency of internal resource allocation is realized only when the segment would have been financially constrained as a stand-alone. That is, external

[1] Villanoga (2004) even goes further to question the previous empirical evidence of the diversification discount itself by using different data. Using the Business Information Tracking Series data, she finds a diversification premium on a sample showing discounts according to the COMPUSTAT segment data. Whited (2001) also shows that measurement errors in Tobin's q may result in the empirical evidence of diversification discounts.

[2] Politicking and rent-seeking among division managers, inefficient monitoring by headquarters as mentioned above may be a result of inefficient information and incentive structure. In contrast, synergy among divisions, coinsurance, and winner-picking may result from efficient flow/use of information and incentive.

[3] Especially, when we compare between conglomerates and stand-alone equivalents (or spin-offs), these external factors matter substantially. For example, market monitoring can be more efficient when there are two stocks being traded in the case of stand-alone than when only one stock is traded for the conglomerate. It would be easy for analysts to follow two stand-alone firms than one combined conglomerate. Also shareholders can choose between two stocks in spin-offs (Vijh, 1994), and asymmetric information can be reduced in a spin-off (Krishnaswami and Subramaniam, 1999).

capital access turns out to be a crucial determinant of an efficient conglomerate. In a somewhat different setting, Goldman (2005) shows that firm value can change depending on the information collection dictated by different organizational form.

We claim that we can analyze value creation in internal capital markets more clearly when controlling for the external factors as much as possible. Keeping the scope and scale of internal capital markets is one way of controlling for the external factors. Rajan, Servae, and Zingales (2000) take an approach similar to ours in that they attempt to explain cross-sectional differences in the values of diversified firms based on diversity *within* firms. We also attempt to explain value differentials among diversified firms according to organizational forms *within* firms. In other words, focusing on the internal factor, we examine how changes in *internal* reorganization affect firm value using Japanese internal restructuring data. Specifically, we examine the impact of the Japanese "spin-ins" on firm value.[4] Also, we recognize that the value impact of internal restructuring may vary under different corporate structures. The analysis particularly focuses on the changing role of industrial groups, known in Japan as, *keiretsu*, and bank relationships in the internal capital market.[5] Further, the value impact may depend on corporate focus, based on the spin-off literature.

[4] In the Japanese literature, "spin-off" is used to describe the corporate restructuring. However, the "spin-off" is different from the spin-offs mentioned in the literature. We use the term, "spin-in" to emphasize the unique nature of Japanese "spin-offs". The "spin-ins" is similar to "internal corporate restructurings" as Brickley and Drunen (1990) define - "reorganizing firms by altering the number of divisions or subsidiaries (merging, splitting, or liquidating of existing units or creating new units)."

[5] *Keiretsu* refers to a bank-centered, long-term transactional relationship linked by "stable inter-corporate shareholding" between firms. Morck and Nakamura (1999) define 'stable shareholders' as those who almost never sell out and consistently support management. There are eight bank-centered horizontal industrial groups in Japan, which are Mitsui, Mitsubishi, Sumitomo, Sanwa, Dai-Ichi Kangyo Bank, Fuyo, Tokai, and Industrial Bank of Japan.

The main contributions of this paper are three-fold. The first stems from the uniqueness of the Japanese spin-in structure. The scope and scale of the internal capital market remains the same under Japanese internal restructuring. Thus, we do not evaluate the effect of diversification or un-diversification.[6] Instead, we evaluate the effect of the headquarters' decision on the internal resource allocation through the spin-ins. We show that internal organizational changes can improve firm value and the efficiency of internal capital markets, without disturbing its scale. We conjecture that the value creation may arise due to more efficient internal structure which facilitates better information and incentives. Further, this reduces the measurement problem in previous studies because we use the same set of firms around this specific event.[7]

Second, this study extends the studies on Japanese deregulation, which has been implemented for the past two decades. Weinstein and Yafeh (1998), Anderson and Makhija (1999), Wu and Xu (2005), and Kato et al. (2005) investigated the effect of financial deregulation in Japan using data from the periods 1977-1986, 1980s, 1974-1997, and 1997-2001, respectively. These studies show whether the transition of Japanese financial markets from a highly regulated growth-oriented system to an Anglo-Saxon type of less-regulated market systems creates value for shareholders and reduces the associated agency costs.[8] We employ the Japanese corporate spin-ins sample which was

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[7] The idea is that potential measurement in q and investment may be reduced when the changes of these variables instead of the level of the variables are used in the analysis. For example, much work in spin-off literature looks at the change in investment sensitivity around spin-offs. See Ahn and Denis (2004), Gertner, Powers and Scharfstein (2002), Dittmar and Shivdasani (2003), and Burch and Nanda (2003).

[8] Weinstein and Yafeh (1998) argue that the Japanese firms' benefits of close ties with banks are appropriated by the banks, but the deregulation of financial markets toward Anglo-Saxon types of system reduces the market power of banks. Anderson and Makhija's (1999) suggest that monitored bank financing (compared to public debt) provides benefits to firms with high agency costs. According to Wu and Xu

announced and completed from 2001 to 2003. Since new "spin-in" laws went into effect in 2001, many Japanese firms became involved in the spin-ins for their corporate restructuring. The new law is the end result of the Commercial Code revisions of the Japanese capital market in the late 1990s and the early 2000s. We expect different consequences of the Japanese internal restructuring according to a firm's different corporate structure - *keiretsu*-affiliation. [9]

Lins and Servaes (1999) find that there is a diversification discount in Japan, and diversified firms with *keiretsu*-affiliation show a greater diversification discount, compared to non-*keiretsu*-affiliated firms. Also, Hoshi et al. (1991) find that *keiretsu*-affiliated firms show less investment sensitivity compared to the non-*keiretsu*-affiliated firms. Thus it would be interesting to investigate how the internal restructurings affect the efficiency of internal capital markets in terms of excess value and investment sensitivity. As Walker (2005) suggests, we can ascertain the differential effect of internal restructuring under two distinct corporate structures – a business group (keiretsu-affiliated) and an independent group (not affiliated). Japanese data provide a natural setting for a crucial evidence of the role of conglomerates under competing corporate structures.

Third, this study complements previous literature on banking. It is well-known that the main Japanese corporate structure is governed by a bank-centered relationship. Thus, the Japanese spin-ins dataset provides a unique setting in which we can test the

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(2005), adverse value effect diminished in the 1990s when heavy burdens of capital market regulation on the public debt market were removed. Kato et al. (2005) find that good incentive-based compensation plans create shareholder value.

[9] Brickley and Drunen (1990) examine internal corporate restructuring, using U.S. data and find a positive market response. However, they have not explored the sources of gains.

impact of the bank relationship on value creation and efficiency of internal capital markets, if any, through internal corporate restructuring. Diamond (1984, 1991), among others, argues that banks monitor their client firms, and this delegated monitoring reduces information asymmetry between the firms and the capital markets.[10]

In general, we find that the stock market favorably viewed the spin-in events with significant stock price appreciation around the announcement. Also, the efficiency of internal capital markets measured by excess value and investment sensitivity increased significantly after the spin-ins transactions.

There are several reasons why firm value and efficiency of internal capital markets can be enhanced through these Japanese internal corporate restructurings. Although these restructurings are not spin-offs in their pure sense, similar benefits may arise due to corporate re-focus in parent firms and incentive improvements in the newly established subsidiary firms. Furthermore, a clear separation between parent and subsidiary operations and financial reporting would enhance internal and external monitoring, and thus increase the efficiency of internal capital markets as well as firm value.

Furthermore, the increase in firm value is a function of the market's expectation of the improvement in existing agency problems and asymmetric information in the firm, due to the spin-ins. Since the potential agency problems are reflected in the corporate structure, we investigate several aspects of the prominent Japanese corporate structures such as industrial group (*keiretsu*) affiliation and bank relationships. The main banks are

[10] Diamond (1984) and Fama (1985) argue that banks are unique because they have information that is not available to other external capital markets. Diamond (1991) argues that banks' information on client firms allows banks to monitor these firms, while Lummer and McConnell (1989) assert that banks are important and credible transmitters of firm-specific information to the capital markets.

typically the major lenders to firms and play the role of information controllers and monitors of the firm, intervening in financial decisions. Even with independent firms with no *keiretsu* affiliation, bank relationship is important in the Japanese corporate structure. Hence, we examine the effect of these corporate governance and bank relationship on the firm value and efficiency of internal capital markets, initiated by the Japanese spin-ins.

We expect that the firms with the most agency problems will benefit most from these restructurings. Walker (2005) and Wu and Xu (2005) suggest that the *keiretsu* system promotes agency problems within the corporate structure. If this is true, the market is expected to respond more positively to the spin-ins with the *keiretsu*-affiliated firms than to those with the independent firms. Further, bank monitoring may affect how the market responds to these spin-ins. In general, the spin-in that induces better monitoring will be associated with a positive market response. Since bank monitoring and *keiretsu* are closely interwoven in Japan, the effect of bank monitoring may depend on the *keiretsu* affiliation. We expect that the impact of bank monitoring may be less for the independent (*non-keiretsu*-affiliated) firms because they are monitored by the external capital market. We find that there are significant positive abnormal returns around the spin-in announcements, generally consistent with Desai and Jain (1999). As expected, *keiretsu*-affiliated firms benefited most from the spin-ins. Bank monitoring seems effective especially in the *keiretsu*-affiliated firms.

The rest of the paper is structured as follows. In Section I, we provide the background on the Japanese spin-ins examined. In Section II, we describe the data and descriptive statistics of Japanese corporate spin-ins. In Section III and IV, we analyze and

interpret the empirical results. Finally, Section V summarizes and concludes the major tenets of our arguments.

I. Japanese Financial Deregulation and Corporate Restructurings

The Japanese economy and its financial markets have been stumbling for the past decade after the collapse of the bubble economy in the late 1980s. Since then, to reinvigorate the economy, the Japanese government has implemented a wide range of deregulation measures through numerous revisions of the Commercial Code. Among these, the standards for bond issuance were liberalized through deregulation in the mid-1980s. As a result of this deregulation, many Japanese firms could reduce the heavy dependence on bank financing and select debt capital. Anderson and Makhija's (1999) study of Japanese firms in the late 1980s, which investigated the choice of monitored bank financing and arm's-length public bonds, suggests that monitored bank financing (compared to public debt) provides benefits to firms with high agency costs. Along with this study, Wu and Xu (2005) studied a sample of Japanese firms from 1974-1997, finding adverse *keiretsu*-effects in the 1980s. This adverse value effect diminished in the 1990s, when heavy burdens of capital market regulation on the public debt market were removed: "This evidence presages the waning of traditional *keiretsu* practices, along with the main-bank-centered governance and finance structure." (Wu and Xu 2005)

The deregulation continued even when the Japanese economy was in a serious recession after the Asian financial crisis in 1998-99. In fact, the deregulation of the Japanese financial market started in 1998 through Commercial Code amendments. The amendments enhanced flexibility in the financial markets[11]: stock options provisions,

[11] Milhaupt (2003) divides the amendments into two groups: *flexibility enhancing amendments* and *monitoring enhancing amendments*. The former expands stock options and enhances organizational

mergers, and internal capital market reorganization. The stock options provisions amendments allowed the issuance of stock options for employees, including executives. Kato et al. (2005) studied the shareholder wealth effect of 350 firms that adopted option-based compensation plans between 1997 and 2001, and they found that good incentive-based compensation plans create shareholder value. In 1997, merger procedures were simplified, and the revision of the Anti-monopoly Law allowed the establishment of pure holding companies, which had been banned since 1947. In 1999, in conjunction with the simplified merger procedures and Anti-monopoly Law, the stock-swap system and stock transfer system were created to facilitate the transactions between wholly-owned subsidiaries and their parent companies. The Amendment of the Commercial Code in 2000 introduced the procedures for company spin-ins or divestitures to facilitate the internal restructurings.

We extend earlier studies on the relationship between Japanese corporate governance and Japanese deregulations using the Japanese spin-in data from 2001 to 2003. On April 1, 2001, the new spin-in laws went into effect, and many Japanese firms became involved in the spin-ins for their corporate restructurings. The new spin-in law is the end result of the Commercial Code revisions of the Japanese capital market in the late 1990s and the early 2000s. Thus, the various revisions relating to stock repurchases, holding companies, and simplified mergers and spin-ins have not only brought the legal framework more in tune with the demands of Japan's internationalized capital markets, but have also made the management of Japanese corporations more conscious of

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flexibility for Japanese firms in mergers, divestitures, and corporate reorganization. The latter addresses changes to the shareholder-derived suit mechanism, statutory auditor system, and the corporate board structure.

corporate value.[12] Thus, this study investigates the effect of financial deregulation in Japan after 2001, using corporate spin-in data that have not been examined yet.

Around the time of the Asian financial crisis at the end of the 1990s, Japanese corporations and the government started to realize the need for corporate reorganization, such as spin-ins or other divestitures, to improve the flexibility and efficiency of their corporate structures in the competitive international capital market. The institutional legal frame of Japanese corporate spin-ins began to change in 1997, and many of the Japanese multi-divisional firms reorganized their internal capital markets by transforming divisions into independent units, such as wholly-owned subsidiaries, to obtain optimal internal capital market structures. Before the enactment of the new corporate spin-in law in April 2001, Japanese firms were required to be inspected by the federal court before conducting spin-ins. They also needed to obtain individual approval from creditors for the transfer of liabilities and assets, which impeded the flexibility of corporate restructuring. However, the procedure has been simplified since the new Commercial Code revision in 2001. In the past, cash transactions were required, but the new law allowed easier, cash-less transactions, accompanied by stock swap and stock transfer system changes in 1999. Consequently, it became easier for firms to choose their optimal corporate structure, setting the stage for implementing the new corporate spin-in laws in Japan.

II. Data and Sample Selection

We obtain our sample of Japanese corporate spin-ins from those announced between January 1, 2001 and December 31, 2003 and completed since the effective date of the new corporate spin-in law in April 2001. The data source is the Merger and

[12] Japan Investor Relations and Investor Support, Inc. Research Newsletter, Issue No.1, December 2001

Acquisition Research Report (MARR, Tokyo), published by RECOFF CO., which is the largest M&A data service provider in Japan. MARR lists the announcement dates of spin-ins, names of parent and spun-in (new wholly-owned subsidiary) companies, and major industries of parent and spun-in companies. In addition, we search for spin-in news in four major Japanese financial papers: *Nihon Keizai Shimbun* (Nikkei Economic Journal), *Nihon Keizai Sangyo Shimbun* (Nikkei Industrial Journal), *Nihon Keizai Ryutuu Shimbun* (Nikkei Distribution Journal), and *Nihon Keizai Kinyuu Shimbun* (Nikkei Finance Journal).

Bank-centered industrial groups, *keiretsu*, are identified from *Industrial Groupings in Japan 2001*, published by Dodwell Marketing Consultants.[13] We restrict the sample to the firms listed in the First or the Second section of the Tokyo Stock Exchange prior to the spin-in event year.[14] We retrieve information on bank ownership, and consolidated bank loan data between 2000 and 2003 from the Autumn issue of the *Japan Company Handbook*. End-of-fiscal-year financial information is collected from the *Nikkei Economic Electronic Databank System* (NEEDS), the *Japan Company Handbook*, and *Worldscope*. These financial data are based on consolidated financial statements, which evaluate the performance of the business group as a whole, including spun-in companies and related units. Daily stock prices and the daily Nikkei Average Index are retrieved from the *NEEDS*.

Initial spin-in data consist of 293 observations made between 2001 and 2003; we exclude 132 merger-facilitated spin-ins. Financial data for 10 companies are not available

[13] Hoshi et al. (1990 and 1991) use this publication for identifying the *keiretsu*-affiliated firms.

[14] Japan Company Handbook contains the First and Second sections of the Tokyo Stock Exchange's listed firms' information including the name of the main bank, bank ownership, and bank loan data.

from the *NEEDS*. The sample also excludes 11 companies-- 7 real estates, 2 finance firms, and 2 utility companies. Additionally, 8 of the remaining spin-ins are eliminated because they are related to firms spinning in more than one division. Thus, the final sample includes 132 spin-ins. Panel A of Table I describes the annual frequency of Japanese corporate spin-ins by *keiretsu* affiliation of the parent firms. Non-*keiretsu*-affiliated firms (80 cases) are more frequently involved in corporate spin-ins than their affiliated counterparts (52 cases) during the sample period. Also, the annual frequency of spin-ins increased significantly from 30 in the first year (2001) to 61 in 2002 and 41 in 2003.

Using the 40 MARR industry classifications, Panel B of Table I shows the frequency of related and unrelated spin-ins. If the parent company and its subsidiaries are in different industries, then the spin-in is considered to be unrelated. In the literature, un-relatedness is considered equivalent to focus-increasing. It seems that unrelated spin-ins are slightly more frequent than related ones, while focus-increasing spin-ins are more dominant than non-increasing ones. Table II shows the summary statistics of sample firm characteristics. The firms are large with average assets of 656 billion yen and average sales of 608 billion yen. The average Tobin's Q is about 0.95 with a median of 0.87. Capital expenditures normalized by total assets are about 4.15% on average. Thirty-three percent of the sample firms are related spin-ins in terms of industries. About 40% of the sample firms are affiliated with *keiretsu*. The average bank loan to total asset ratio is a little more than 30%. Panel B of Table II shows that banks, on average, own about 20% of sample firms' equity.

III. Announcement Effects

A. Univariate Results

Table III shows the two-day average cumulative abnormal returns (i.e., CARs) for parent firms around the spin-in announcement. These returns are calculated based on the market model, with parameters estimated from 258 days to 11 days before the spin-in announcement date following the Brown and Warner (1985). The cumulative abnormal returns are calculated around the announcement window of (-1, 0), where 0 denotes the initial announcement date. On average, the whole sample shows 1.95% abnormal returns at the 10% significance level. Measured according to relatedness of the spin-ins for the classification of focus-increasing samples, we do not observe any significant differential effects on the CARs. This directly contrasts the results with U.S. spin-offs in which the CARs for the focus-increasing spin-offs are significantly higher than those of the non-focus-increasing ones (see Daley, Mehrotra and Sivakumar 1997; Desai and Jain 1999).

Keiretsu-affiliated spin-ins show 4.86% abnormal returns at the 10% significance level. However, non-*keiretsu*-affiliated spin-ins do not show significant abnormal returns. Albeit statistically weak, the difference of 5% for the two-day abnormal return may be economically substantial. Thus, our results suggest that the Japanese market expects shareholder wealth to improve more significantly for *keiretsu*-affiliated firms than for independent firms, as a result of the spin-in reorganization. We also examine bank-related governance variables and their effect on CARs. The bank loan ratio (bank loans normalized by the book value of total assets) and bank ownership appear to affect the abnormal returns. Overall, banks seem to play an effective monitoring role based on the

market's positive response to bank governance variables.[15] In the next section, we closely examine the effect of the *keiretsu* affiliation and bank monitoring variables in the multivariate frame after controlling for firm size, corporate focus, and investment opportunity.

B. Multivariate Results

Table IV shows the multivariate regression results in which two-day cumulative abnormal returns around the spin-in announcement are explained by *keiretsu* affiliation and bank relationships with some control variables such as firm size, corporate focus, and corporate performance (or investment opportunity) of the firms, prior to the spin-in announcements. We measure firm size as the logarithm of the total assets, and we measure corporate performance as Tobin's Q. We use two alternative measures of corporate focus (or relatedness) – a dummy variable for relatedness and a change in the Herfindahl index. Since the regression results are the same qualitatively, we only report the results with a relatedness dummy: the focus-increasing dummy variable is 1 if the industry of the parent company is different from that of the spun-in. In model (1) of Table IV, we regress the CARs against a *keiretsu* affiliation dummy variable and the aforementioned control variables. There is a significant difference (6.65%) in abnormal returns around the announcement between *keiretsu*-affiliated and non-*keiretsu*-affiliated firms, after controlling for other variables. As in the univariate analysis, *keiretsu* affiliation is an important determinant of the CARs.[16] This market response is consistent

[15] Bank loan ratio is used to measure the degree of relationship with banks in Japanese banking literatures. See Kang et al. (2000), Morck and Nakamura (1999), and Houston and James (2001). Dahiya et al. (2003) use bank relationship dummy variable indicating whether companies received loan from the bank in the past.

[16] Lins and Servaes (1999) find that diversified *keiretsu*-affiliated firms are traded at a discount. Also, Walker (2005) shows that investment sensitivity of *keiretsu*-affiliated firms is lower than that of

with the hypothesis that the spin-in reorganization is expected to see greater shareholder wealth improvement in *keiretsu*-affiliated firms than in independent firms.

In model (2) of Table IV, the bank loan ratio shows a significant relationship at the 10% level with the abnormal announcement returns. This result is consistent with Kang et al. (2000) that takeovers announcement returns show a positive relationship with bank loan ratio. They support the notion that banks have information advantage and play a significant monitoring role. It is interesting to observe that the significance of the effect of the bank loan ratio disappears in model (3) when we add an interaction term between the bank loan and *keiretsu* affiliation dummy variable. The coefficient estimate (i.e., 0.1356) of the interaction term is found to be significant at the 5% level. Specifically, as the bank loan ratio increases by its standard deviation, the CARs would increase by as much as 3.27% [.19837 x (.029 + .1356)] when the spin-ins are affiliated with *keiretsu*. This suggests that the effect of the bank relationship is stronger in *keiretsu*-affiliated spin-ins than in the independent firms, which is consistent with our hypothesis.

One of the unique features of the Japanese industrial structure is the equity ownership of industrial firms by Japanese banks. Morck et al (2000) find that there is a non-linear relationship between bank ownership and firm value. Banks as creditors may act against maximizing shareholder wealth; low to moderate ownership may empower banks to expropriate their shareholders. However, with high levels of bank ownership, the adverse incentive is expected to be mitigated, and the positive effect of monitoring kicks in. In order to discuss this potentially important topic, model (4) estimates the relationship between the CARs and the bank loan ratio and its interaction with a bank

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independent firms, similar to Hoshi et al (1991). And the lower investment sensitivity of the *keiretsu*-affiliated firms is associated with lower excess values.

ownership dummy that is equal to 1 if the bank ownership is above the median. The coefficients on both the bank loan and the interaction with bank ownership are all insignificant.[17] The following sections investigate the potential sources of the positive market responses – changes in diversification discounts and investment sensitivity.

IV. Excess Value and Investment Sensitivity Analysis

A. Excess Value Analysis

We find a significant increase of excess value after the spin-in transactions. We follow Lins and Servaes' (1999) excess value measurement, which is similar to that of Berger and Ofek (1995). Lins and Servaes (1999) examine international evidence on a diversification discount for Germany, Japan, and the United Kingdom. They find that the Japanese and UK firms have significant diversification discounts while German firms do not. Interestingly, we do not find any significant excess value before the spin-in transactions for our samples.[18] Instead, in Panel A of Table V, we observe significant increases after the spin-ins. Panel B of Table V, the cross-sectional regression results suggest that the magnitudes of excess value is strongly determined by the relatedness of the transactions. The coefficients on the un-relatedness indicator variable are all positive and significant at 5% level.

Also, we find a very significant relationship between excess value changes and CARs. However, past firm performance measured by ROA or Tobin Q has a negative

[17] Morck et al. (2000) employ *main* bank ownership instead of bank ownership as a whole. Due to insufficient data on *main* bank ownership, we use bank ownership data instead. When we estimate the relationship with *main* bank ownership with 88 observations, the interaction term coefficient is significant at the 1% level. That is, with higher ownership, the main bank's monitoring becomes more effective in enhancing shareholder wealth.

[18] We examine the excess value of Japanese markets from 1998 to 2005 whereas Lins and Servaes (1999) look at years 1992 and 1994.

impact on value changes. Interpreting CARs as market's expectation of *future* performance, we argue that the market's positive expectation of the spin-ins is supported by the improvement on excess value. The positive significant impact of bank loan ratio on firm value supports the monitoring hypothesis of bank loans (Model 2). The result in Model 3 shows that the existence of bank-appointed directors may improve firm value through better monitoring. This result is consistent with Kaplan and Minton (1994), Kaplan (1994), and Morck and Nakamura (1999) that the monitoring role of bank-appointed directors is associated with shareholder value creation. However, we do not observe any significant relationship between excess value changes and the *keiretsu*-affiliation indicator variable.

B. Investment Sensitivity Analysis and the Internal Capital Markets

In order to further assess the source of the firm value increase after spin-ins, we examine investment behavior around spin-ins. We assume that improved internal capital markets would minimize any misallocation of internal resources: firms with efficient internal markets should invest more if there are better investment opportunities. Tobin's Q is taken as a proxy for investment opportunities, and capital expenditures scaled by total assets are considered investment measures.[19] Our regression model is similar to that of Gertner et al. (2002), in which the estimation is based on the panel framework of year -3, -2, -1, +1, +2, and +3 around spin-ins transactions. We exclude the spin-in years in order to avoid any potential confounding effects during the transitional period. The basic empirical model is as follows.

$$IK_{it} = \alpha_i + \beta_1 * Q_{it} + \beta_2 * Q_{it} * AFTER + \beta_2 * AFTER + \sum_t \gamma_t * YEAR_t + \mathrm{ROA}_{it} + \ln(\mathrm{TA})_{it} + \varepsilon_{it}. \quad (1)$$

[19] Here we employ individual firms' Q, which is a better proxy for investment opportunity than industry's Q used in Gertner, et al. (2002)

IK_{it} is the ratio of capital expenditures to the book value of total assets for firm *i* at time *t*. *AFTER* is a dummy variable indicating post-spin-in time periods of +1, +2, and +3 as one, and zero otherwise. Q_{it} is a proxy of investment opportunities for firm *i* at time *t*. $YEAR_t$ is a calendar dummy variable of fiscal year t, which controls for the specific year effect. Q_{it}**AFTER* is the interaction term that checks for any significant increases in investment sensitivity after spin-in transactions. As discussed earlier, unlike other studies, our data make it convenient to compare between pre- and post-spin-in events in the examination of the overall effect of the spin-ins, because the consolidated financial data is available before and after spin-ins.

Gertner, Power, and Scharfstein (2002) show that the spin-offs improve the efficiency of capital allocation: these results are found primarily in the industries of unrelated parent and spin-offs firms and in spin-offs with higher announcement returns. Desai and Jain (1999) find that long-run abnormal returns for focus-increasing spin-offs are significantly larger than those for non-focus-increasing spin-offs. Dittmar and Shivdasani (2003) show that divestiture reduces the diversification discount and increases the efficiency of segment investment. They argue that inefficient investment is partly responsible for the diversification discount and support the corporate focus and financing hypothesis. Therefore, we expect a significant positive β_2 - the coefficient of the interaction term between Tobin's Q and the *AFTER* dummy variable in equation (1). We also hypothesize that the bank's monitoring function should increase the investment efficiency of internal capital markets. This means that we expect a greater β_2 (the interaction term coefficient) for *keiretsu*-affiliated firms and greater bank loans.

Overall, in Table VI, we observe that the investment sensitivity significantly increases around the internal reorganizations at the 1% level. This means that after spin-ins, internal capital markets have become more efficient: investment becomes more sensitive to investment opportunity. Also, investment becomes more sensitive after spin-ins for the sample of focus-increasing spin-ins. The estimated coefficient of Tobin's Q for focus-increasing spin-ins is positive and significant (p-value = 0.049), significantly greater than that for non-focus-increasing spin-ins. This result is consistent with the previous studies, suggesting that internal capital markets become more efficient if the parent firm is more focused.

Walker (2005) provides recent evidence that investment is inefficient for *keiretsu*-affiliated firms while the investment of non-affiliated firms is sensitive to growth opportunity. It is shown in Panel B of Table VI that the coefficient estimate of Tobin's Q for *keiretsu*-affiliated firms is negative and significant (*p*-value = 0.012). This suggests that internal capital markets before spin-ins were not efficient for *keiretsu*-affiliated firms, consistent with Walker (2005). We do not observe the inefficient market for independent firms before the spin-ins. However, the interaction term coefficients of both types are positive, although the coefficient is more significant (0.164) for the *keiretsu*-affiliated firms at the 1% level. This implies that *keiretsu*-affiliated firms' investment sensitivity has increased more drastically than non-*keiretsu*-affiliated firms.

Finally, in order to find the interaction effect of focus and *keiretsu*-affiliation we divide sample into the four subsets. The results (not reported) show that *keiretsu*-affiliated firms associated with either focus-increasing or non-focus-increasing spin-in

transactions show significant increases in investment sensitivity after the transactions. The effect is the greatest for the focus-increasing and *keiretsu*-affiliated firms.

V. Summary and Conclusion

Following a new research direction in corporate finance, the theory of firm and organization, we study the effect of *internal* organizational changes on firm value by examining Japanese corporate spin-ins for the period from 2001 through 2003. Japanese spin-in data provide a unique environment in which we can focus on the effect of corporate restructurings on firm value, without considering ownership and control issues. This study shows that there are significant positive abnormal returns around the spin-in announcement. Furthermore, the announcement abnormal returns are positively related to the *keiretsu* affiliation of firms and bank loan ratios. This can be interpreted as an indication that spin-in reorganization is expected to improve shareholder wealth more significantly in close bank relationship settings and in *keiretsu*-affiliated firms.

Our empirical results are consistent with the hypothesis that the corporate spin-in in Japan seems to significantly reduce the agency problem. Naturally, the reduction in the agency problem is expected to be most significant for the firms with *keiretsu* affiliation. We find some evidence that the effect of bank monitoring is less for independent firms than for firms with *keiretsu* affiliation. We also find that Japanese spin-in results in a significant improvement in excess value and a drastic increase in investment sensitivity. We conclude that bank monitoring and corporate focus seem to drive these positive outcomes. Finally, the *keiretsu*-affiliated firms seem to have benefited most from the

improved investment sensitivity due to the spin-ins, especially when they *internally* spin unrelated divisions.

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Table I

Annual Frequency of Japanese Spin-ins and *Keiretsu* Affiliations

Panel A of this table lists the annual frequency of the Japanese spin-ins listed in the First or the Second section of the Tokyo Stock Exchange, announced from January 1, 2001 through December 31, 2003. The sample is categorized by the *keiretsu* affiliation of the firms. *Keiretsu* affiliation information is retrieved from *Industrial Groupings in Japan 2001*. The sample of Japanese corporate spin-ins are obtained from MARR (Merger and Acquisition Research Report, Tokyo), published by REOCFF CO., which is the largest M&A data service in Japan. In addition, we search spin-in news from four major financial papers in Japan, which are Nihon Keizai Shimbun (Nikkei Economic Journal), Nihon Keizai Sangyo Shimbun (Nikkei Industrial Journal), Nihon Keizai Ryutuu Shimbun (Nikkei Distribution Journal), and Nihon Keizai Kinyuu Shimbun (Nikkei Finance Journal)

Panel B of this table summarizes the number of the Japanese spin-in sample categorized by *keiretsu* affiliation, and relatedness. A spin-in is classified as unrelated if the industry of the spun-in firm is different from that of the parent firms. There are 40 industries which are categorized by MARR (Merger & Acquisition Resource Report).

Panel A. *Keiretsu*-Affiliated and Non- *Keiretsu*-Affiliated Spin-ins

Year	*Keiretsu*-Affiliated Firms	Non-*Keiretsu*-Affiliated	Total
2001	10	20	30
2002	26	35	61
2003	16	25	41
Total	52	80	132

Panel B. Related- and Unrelated- Spin-ins

		Relatedness		
		Related	Unrelated	Total
Keiretsu Affiliation	Affiliated	23	29	52
	Non-Affiliated	37	43	70
	Total	60	72	132

Table II
Summary Statistics of Japanese Spin-ins

This table provides the summary statistics of the Japanese spin-ins samples that were listed in the First or Second Sections of the Tokyo Stock Exchange. Annual financial data are retrieved from the Nikkei Economic Electronic Databank System (NEEDS). Bank ownership and bank loan are collected from autumn versions of the *Japan Company Handbook* between 2000 and 2003. *Keiretsu* affiliation information is retrieved from *Industrial Groupings in Japan 2001*.

Panel A. Firm Characteristics

Variable	Mean	Median	Stdv.	N
Total Asset (billions of Yen)	656	81	1445	132
Sales (billions of Yen)	608	93	1349	132
Tobin's Q	.954	.876	.364	132
Capital Expenditures to Total Asset Ratio	.041	.030	.039	129
Portion of Related Spin-ins	.45	-	-	132

Panel B. Governance Characteristics

Variable	Mean	Median	Stdv.	N
Bank Loan to Total Asset (%)	30.7	31.56	19.837	132
Bank Ownership (%)	19.67	19.6	11.085	132
Portion of *keiretsu*-affiliated firms	.39	-	-	132

Table III
Two-Day (-1,0) Average Cumulative Abnormal Returns of Japanese Spin-ins, Categorized by Relatedness, *Keiretsu* Affiliation, and Bank Relations

This table summarizes the market-adjusted two-day cumulative abnormal returns of Japanese spin-in samples listed in the First or the Second sections of the Tokyo Stock Exchange, which are announced from January 1st, 2001 through December 31st, 2003 and completed since the effective date of the new corporate spin-in law in 2001. Cumulative abnormal returns are calculated from the market model, estimated from days -258 to -11 relative to the press announcement following Brown and Warner (1985). The mean and median cumulative abnormal returns are reported with the p-values in the parentheses. *** indicates 1% significance level, ** indicates 5% significance level, and * indicates 10% significance level.

	Number of Sample	Mean	Median	t-Test	Wilcoxon Test
Total	N = 132	0.0195*	-		
		(0.0904)			
Unrelated	N=72	0.00983	0.06538	0.0225	0.6628
		(0.2628)	(0.3729)	(0.360)	(0.490)
Related	N=60	0.03235	-0.00220		
		(0.1968)	(0.9363)		
Keiretsu-affiliated	N=52	0.04868*	0.00695**	1.70*	1.6393
		(0.0884)	(0.0471)	(0.0959)	(0.1011)
Non-keiretsu-affiliated	N=80	0.00062	-0.00301		
		(0.8848)	(0.8769)		
Bank Loan Above Median	N=66	0.04011*	0.00459*	1.81*	1.5542
		(0.0777)	(0.0739)	(0.0748)	(0.1201)
Bank Loan below Median	N=66	-0.00100	-0.00385		
		(0.8018)	(0.7737)		
Bank Ownership Above Median	N=66	0.02138**	0.01022***	0.16	2.7785***
		(0.0217)	(0.0059)	(0.8747)	(0.0055)
Bank Ownership Below Median	N=66	0.01774	-0.00440		
		(0.404)	(0.2363)		

Table IV
Cross-Sectional Analysis of Two-Day Cumulative Abnormal Returns for Japanese Spin-ins

This table summarizes the regression analysis with the market-adjusted two-day cumulative abnormal returns as dependent variables and bank-related governance variables as independent variables in Japanese spin-in samples. A bank-centered industrial group, *keiretsu*, is identified from the *Industrial Groupings in Japan 2001*, published by Dodwell Marketing Consultants. We retrieve bank ownership, and consolidated bank loan data between 2000 and 2003 from the autumn versions of the *Japan Company Handbook*. End-of-fiscal-year financial data are collected from the *Nikkei Economic Electronic Databank System* (NEEDS), the *Japan Company Handbook*, and *Worldscope*. These financial data are based on consolidated financial statements, which evaluate the performance of the business group as a whole, including spin-ins and related units. Daily stock prices of individual firms and the daily Nikkei Average Index are retrieved from the *Nikkei Economic Electronic Databank System* (NEEDS). The numbers in parentheses are p-values for two-tailed tests. *** indicates 1% significance level, ** indicates 5% significance level, and * indicates 10% significance level.

Independent Variables	*(1)*	*(2)*	*(3)*	*(4)*
Log of Total Asset	-.0102 (0.113)	-.0055 (0.354)	-.0098 (0.117)	-.0091 (0.182)
Unrelated Spin-in Indicator	.0347 (0.126)	.0319 (0.164)	.0342 (.131)	.0358 (0.124)
Tobin's Q	.0306 (0.332)	.0310 (0.332)	.0335 (0.289)	.03601 (0.265)
Keiretsu-Affiliation Indicator	.0665** (0.012)			
Bank Loan to Total Asset		.1066* (0.079)	.0290 (0.681)	.0847 (0.185)
Bank Loan to Total Asset × *Keiretsu*-Affiliation			.1356** (0.043)	
Bank Loan to Total Asset × Bank Ownership Above Median				.0783 (0.284)
Adjusted R^2	0.0448	0.0205	0.0430	0.0213
Number of observations	N=132	N=132	N=132	N=132

Table V

Excess Vale Analysis

This table shows the univariate and cross-sectional analysis of excess value changes from Pre- to Post-spin-ins in Japan. Excess value calculation follows Lins and Servaes (1999), which is similar to that of Berger and Ofek (1995). Un-relatedness dummy variable is indicated as one if the industry of spun-in firms is different from the parent company's major industry. There are 40 industries which are categorized by MARR (Merger & Acquisition Resource Report). The numbers in parentheses are p-values. *** indicates 1% significance level, ** indicates 5% significance level, and * indicates 10% significance level.

Panel A. Univariate Analysis

	N	Min.	Max.	Median	Mean
Before	102	-1.9524	4.4655	-.0291	.1021
				(0.7718)	(0.3376)
After	102	-1.8323	4.3873	0.2111**	.2393**
				(0.0176)	(0.0164)
Difference (After-Before)	102	-.9924	1.9935	.07838*	.13725**
				(0.0890)	(0.0218)

Panel B. Cross-Sectional Analysis

Independent Variables	(1)	(2)	(3)	(4)
Log of Total Asset	-.0362936	-.0628385**	-.0636724**	-.0483962
	(0.181)	(0.025)	(0.034)	(0.135)
Un-relatedness Dummy	.2247135**	.2295544**	.2554106**	.2481018**
	(0.046)	(0.038)	(0.034)	(0.031)
Return on Asset	-.5560516	-.6161009	-.8839846**	-.9301902**
	(0.222)	(0.150)	(0.036)	(0.038)
Tobin Q	-.2761732*	-.2609594*	-.3335271**	-.2655517*
	(0.059)	(0.069)	(0.035)	(0.077)
CAR(-1,0)	.9843843**			
	(0.019)			
Bank Loan to Total Asset Ratio		.9397924***		
		(0.003)		
Bank-Sent Director Dummy			.2347804*	
			(0.074)	
Keiretsu-Affiliation Dummy				.0834124
				(0.553)
Adjusted R^2	0.1643	0.1914	0.1827	0.1177
Number of observations	N=102	N =102	N = 87	N =102

Table VI
Investment Sensitivity Analysis Pre- and Post-Spin-ins

This table reports the investment sensitivity analysis results of the following panel regression equation of fixed effect,
$IK_{it} = \alpha_i + \beta_1 * Q_{it} + \beta_2 * Q_{it} * AFTER + \beta_2 * AFTER + \sum_t \gamma_t * YEAR_t + ROA_{it} + \ln(TA)_{it} + \varepsilon_{it}$. *IK* is calculated as the ratio of capital expenditure to the book value of total asset. *Q* is Tobin's Q computed as the ratio of the sum of book value of debt and market value of equity to the book value of assets. *AFTER* is the dummy variable, which is indicated as 1 for years -3, -2, and -1, and 0 for years +1, +2, and +3. $\sum_t \gamma_t * YEAR_t$ is year dummy variables. The equation controls the profitability and the size the firm using return on asset and natural logarithm of total asset respectively. The numbers in parentheses below the coefficient estimates are *p*-values. *** indicates 1% significance level, ** indicates 5% significance level, and * indicates 10% significance level.

Model	**(1) Total**	**(2) Focus**		**(3) *Keiretsu***	
		Increase	Non-Increase	Affiliated	None
Tobin's Q	-.54202	-.6864	-.0025	-.1369**	-0.6616
	(0.238)	(0.356)	(0.157)	(0.012)	(0.450)
Tobin's Q	1.0606***	1.5580**	0.0039**	0.1637***	1.3958
× After	(0.008)	(0.049)	(0.023)	(0.001)	(0.102)
After	-1.4716	-1.865	-0.0052	-0.2794***	-1.7497
	(0.146)	(0.209)	(0.200)	(0.009)	(0.321)
ROA	5.9412**	5.9419*	-.0186	0.4773**	6.2781
	(0.022)	(0.064)	(0.292)	(0.03)	(0.286)
LnTA	-8.007***	-8.4529***	-.0104***	-0.5887***	-8.4405***
	(0.000)	(0.000)	(0.005)	(0.000)	(0.000)
No. of Obs.	349	241	107	167	182
R-square	0.0239	0.1168	0.0269	0.2493	0.1061