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# Shareholders' Value Creation and Destruction: The Stock Prices' Effects of Merger Announcement in Japan

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## Abstract

This paper investigates the relative importance of different sources of value gains and losses for Japanese acquirers in the post-bubble period. Based on the event study methodology, we find an average 1.19% cumulative abnormal return in 3 days surrounding the merger announcement. We empirically test value creation, buying growth, hubris and rescue merger hypotheses on the sample of 62 Japanese domestic mergers with announcement in period 1993-2005. Our findings suggest that differences in financial resources allocation pattern may provide a source of value gain. We do not find negative effect of buying growth. Moreover, mergers with fast-growing target are value enhancing when acquirer has prior ownership in target. Consistent with hubris hypothesis by Roll (1986), announcement returns are adversely related to acquirer's past performance, implying that well-performing acquirers possibly overestimate the true value of deal and overpay target. In contrast with Kang et al. (2000), rescue mergers as evaluated through target's industry adjusted past performance are not value destroying. Announcement returns are significantly positive for mergers announced after 1998, indicating that recent deregulation of financial markets resulted in improvement of conditions for merger activity.

Extant empirical literature has found that mergers represent mixed blessing for shareholders of acquiring firms. Research in U.S. suggests that targets experience significant wealth gains, while gains to acquirers are often null or insignificantly positive (Jensen and Ruback, 1983; Asquith, 1983; Bradley, Desai and Kim, 1988).

Historically, mergers in Japan have been notably fewer than in U.S. and consequently, less explored. Due to deregulation of Japanese financial market in recent years, merger activity has increased, in terms of both, the number and the value of deals. Increase is especially prominent following 1998 due to changes in Government policy and amendments to Antimonopoly Law. During 1999 the total number of mergers first time reached more than 1000, and in consequent six years more than doubled to 2725 in 2005 (MAAR Magazine, August 2006). After 1998, domestic mergers account for more than sixty percent of the number of total mergers and this trend continues in the years following. The dramatic increase in merger activity makes it important to understand motives behind and consequences of mergers.

Previous event studies on Japanese mergers found contrasting results for different periods of analysis; acquirers gain (Pettway and Yamada, 1986; Kang, Shivadasani and Yamada, 2000; Inoue, 2003), acquirers experience wealth losses (Yeh and Hoshino, 2001). Moreover, skepticism regarding the consequences of merger activity has grown with studies based on accounting data finding that mergers tend to distort long term profitability of merging parties (Odagiri and Hase, 1989; Yeh and Hoshino, 2002). A number of event studies on Japanese mergers have been focused on examining the implications of keiretsu groupings, main bank system (Kang, Shivadasani and Yamada 2000; Yeh and Hoshino, 2001) and cross-corporate shareholdings (Van Schaik and Steenbeek, 2004). However, deregulation of Japanese financial markets has brought substantial changes in corporate structures and weakening the role of main bank in recent years. Thus, it is likely that currently increased merger activity can be attributed to different factors from previously stated.

This objective of this paper is to investigate the conditions under which Japanese acquirers in domestic market earn abnormal returns by examining alternative managerial behavioral assumptions regarding the merger activity decision making. Focus on post-bubble period allows us to examine more confined merger activity, not extensively explored in previous literature.

## THEORY AND HYPOTHESES

Mergers have been topic extensively explored in different scientific disciplines. Abundant literature describes motives behind merger activity. One of the most comprehensive description of merger's motives is provided by Trautwein (1990). The classification of motives is based on rationality behind merger activity decision making. Theories explaining merger's occurrence as a result of rational choice state two possible outcomes of a merger; benefits for acquirer's shareholders or benefits for acquirer's management. The former outcome realizes when acquirer's management is impelled by seeking possibilities for value enhancement, while the last outcome happens when management focuses on achievement of personal goals through merger. On the other hand, occurrence of a merger as not completely rational decision is suggested by process theory. Process theory argues that merger occurs as a result of individuals' bounded rationality, organizational routines or political power.

In this paper we examine the implications of three theories described as having the highest degree of plausibility; valuation theory, empire-building theory and process theory (Figure 2).

Rationality Perspective

*Valuation Theory*

Valuation theory argues that firm's excess resources are not readily available to other firms since the existing market impediments (such as government regulations, limited information transfer etc.) prevent smooth distribution of excess resources among firms. In light of this view, merger occurs when acquirer has private information about target that would increase the value of combined entity through purchase of an undervalued peer. Thus, acquirer's management would be motivated by valuable information about potential advantages to be achieved from combining with the target's business (Trautwein, 1990). Barney (1988) suggests that value for acquirer is created when private and unique (inimitable) cash flow exists between merging parties. Unique or inimitable cash flow means that a particular target has higher value for one acquirer than for the others. Harrison et al. (1991) provide evidence that this type of synergy is prominent when specific differences rather than similarities in resources allocation pattern exist between merging parties, since such differences are not easily observable, neither easy to replicate by other market participants. Consequently, acquirer with a source of synergy based on discrepancy in allocation of resources is likely to have an advantage, since reduced competition allows purchasing target at a lower price.

Models incorporating imbalance in financial resources and growth prospects are often used to explore acquisition likelihood, as well as synergy potential between merging firms. Palepu (1986) provides empirical evidence that imbalance in financial resources and growth opportunities of a firm increases its probability of becoming an acquisition target.

Myers and Majluf (1984) developed a model in which high-liquid acquirers merge low-liquid targets with growth potential. In their model, merger has a potential for value creation when one firm's excess liquid resources completely cover the other firm's investment needs. Liquid resources are valuable since allowing firm to avoid undesirable external financing, e.g. issuing of stocks in periods when firm is undervalued. The model assumes

asymmetric information (management has information that investors do not have; e.g. management knows more about the firm's value). Under asymmetric information, low-liquid firm not willing to issue stocks may not undertake all beneficial investment opportunities. Therefore, such firm has a potential to increase its value by merging with high-liquid partner. Thus, the resource availability of one company can be combined with investment needs of the other in order to advance shareholders' value. We omit Myers and Majluf's assumption regarding the specific direction of complementary where high-liquid acquirers purchase low-liquid, high-growing targets. Thus, the complementary in liquid resources and growth opportunities is proposed in both ways; high-liquid acquirers purchase high-growing targets or high-growing acquirers merge with high-liquid targets.

**H1a: Merger between one party with higher liquidity and the other with higher growth will have a positive effect on acquirer's shareholders return at merger announcement.**

The other source of synergy can arise from the difference in financial leverage of merging parties. If one of the merging parties is leveraged and the other has unused debt capacity, the value of tax savings on incremental debt could provide that both parties gain from exploiting unused debt capacity ( Sudarsanam, Holl and Salami, 1996). Bruner (1988) found that targets prior to merger have significantly more leverage than their acquirers and the control sample, though his result does not support hypothesis that the market value of merger is affected by this type of financial discrepancy.

According to Jensen's (1986) free cash flow hypothesis, high level of free cash flow and low debt can create conflict between management and shareholders over payout of the free cash, since managers rather tend to invest excess cash flow in projects with negative net present value (especially oriented towards growth) than pay it to shareholders. Thus, additional debt creation through merger with leveraged target would constrain free cash flow and managerial discretion.

**H1b: Purchasing target with higher financial leverage will have a positive effect on acquirer's shareholders return at merger announcement date.**

*Empire Building Theory*

Empire building theory has origins based on separation of ownership and control in corporation. Management in a public company act as agent for shareholders, performing with delegated authority on shareholders' behalf. Agency problems can occur when managers serve their own interest that is not aligned with shareholders' interest. Evidence of interest conflicts can be perceived through large compensations, excessive perquisites or offensive growth, often referred to as "empire building". Model first proposed by Baumol (1967) suggests that management pursue growth maximization at the expense of shareholders' wealth. Morck, Shleifer and Vishny (1990) for the sample of US acquisitions provide evidence that acquirer's returns decrease when company acquires fast growing target, result consistent with hypothesis that management expropriate shareholders' value by pursuing growth maximization.

Previous studies of Japanese management commonly indicate internal growth as their preference in comparison to American management (Odagiri and Hase, 1989). This difference is attributed to the practice of long-term employment, management attitudes to retain employees and employees' loyalty to company. Nevertheless, the recent surge of mergers in Japan requires the reexamination of underlying factors that shape merger activity.

**H2a: Purchasing fast growing target will have a detrimental effect on acquirer's shareholders' return at merger announcement date.**

However, this detrimental effect could be mitigated if acquirer has ownership in target prior to merger.

**H2b: The detrimental effect of purchasing fast growing target will be weaker if acquirer has greater ownership in target prior to merger announcement.**

Non-Rationality Perspective

*Process Theory*

Historically, scholars have commonly adopted perspective that portrays managerial decision to merge companies based on rationality assumption. According to non-rationality notion of process theory, individuals have limited ability to process information, leading to incomplete evaluations and tendency to make irrational decisions. The scarcity of empirical evidence in respect to process theory perspective can be seen as caused by managerial common attempt to rationalize their actions (Trautwein, 1990). In this study we examine the implications of management overconfidence, denoted as hubris (Roll, 1986).

Roll (1986) argues that management on the basis of previous success mistakenly overestimates synergy potential and overpays target, resulting in the decrease of acquirer's shareholders wealth. Even in mergers with synergy potential, management can still commit valuation errors. Thus, hubris can be viewed as factor affecting the size of bid, rather than a motive for merger and can be present in all types of mergers; value creating and value destroying (Mueller and Sirower, 2003).

Contrasting empirical evidence suggests that performance has a negative relationship with risk taking decisions; poorly performing organizations tend to engage in riskier projects than well-performing organizations (Singh, 1986). Morck, Shleifer and Vishny (1990) provide evidence that better-performing U.S. acquirers also make better mergers.

However, according to Roll's (1986) hypothesis, successful managers are more prone to overconfidence on the basis of previous success. Thus, if Roll's theory holds, we can expect that well-performing bidders might overestimate the value of merger and overpay target.

**H3: Acquirer's past performance will be negatively related to shareholders' return at merger announcement date.**

Rescue Merger

It has been suggested that mergers in Japan sometimes have “rescue motives”; where acquirers merge business partners in financial distress. These mergers could increase value if the benefits of continuing business relationship are larger than the costs associated with rescuing target. On the other hand, if rescue merger is forced by regulatory agencies or banks, the effect on acquirer’s shareholder wealth could be detrimental. Kang, Shivadasani and Takeshi (2000) provide empirical evidence that rescue mergers in Japan during 1977-1993 resulted in negative, statistically significant market reaction. Lang, Stulz and Walking (1989) examine hypothesis that more value will be created when well-performing acquirers take over poorly-performing targets. Their findings for U.S. mergers suggest that financial market rewards well-performing firms acquiring poorly-performing targets.

**H4: If merger with poorly performing target creates less value, we expect that target’s past performance is positively related to acquirer’s shareholders return at merger announcement.**

## METHODOLOGY

Sample and Data

We identify merger events from M&A Data Book for period 1993 to 2002 and MAAR magazines from 2003 to 2005. The final sample consists of 62 domestic merger events between stock listed companies that had the announcement date in the period 1993 to 2005. Following previous studies (Yeh and Hoshino, 2001), financial industry mergers are excluded due to different accounting practices. Mergers in which acquirer purchases two or more targets during one year are screened out since this would represent confounding event with

difficulty to measure the effect of stock price's changes. Mergers in which parent acquires already owned subsidiary are also eliminated since they represent cases of legal status changes rather than merger in its pure form. Since stock prices for targets are not available, the final sample consists of 62 acquirers for which we could obtain daily stock prices from Toyo Keizai Kabuka CD-ROM 2002, 2005 and Yahoo.jp finance. Accounting and ownership data are sourced from Nikkei NEEDs CD-ROM 2006, various issues of Nikkei Kaisha Nenkan and Kigyo Keiretsu Soran.

Event Study Methodology

In order to access the market reaction at merger announcement we use traditional event study methodology as proposed by Brown and Warner (1985). The price change at merger announcement is referred to as abnormal return, calculated as the difference between the observed return of the security and the predicted (normal) return that would occur if the merger was not announced. This can be mathematically expressed as follows: $u_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt})$ (1),

where $u_{it}$ is abnormal return of acquirer security on day t, $R_{it}$ is daily return of acquirer security on day t, $R_{mt}$ is the daily return of Topix on day t, $\hat{\alpha}$ and $\hat{\beta}$ are estimated parameters from the market model $R_{it} = \alpha_i + \beta_i R_{mt} + e_{it}$ (2).

The estimation period used in this paper is 180 days, from 211 days before the merger announcement date to 31 days before the merger announcement. The abnormal return is calculated on the basis of estimated parameters from the market model for test period from 30 days before the merger announcement date to 60 days following merger announcement date. The average abnormal return for N securities on a common day t is calculated as follows: $AAR_t = (\sum_{i=1}^{N} u_{it}) / N$ (3).

Cumulative abnormal returns up to date T are calculated as: $CAR_T = \sum_{t=1}^{T} AAR_t$ (4).

In order to access statistical significance, average abnormal return on day t is standardized by its standard deviation; the standard deviation is estimated from the initial 180 days time-series of average abnormal returns. The standardization procedure insures that abnormal returns are identically distributed, while time-series of average abnormal returns provide cross-sectional independence in the security-specific abnormal returns across time. The test statistic for any event day t is $\mathrm{AAR}_t / \hat{S}(AAR_t)$ (5)

where $\hat{S}(AAR_t) = \sqrt{(\sum_{t=-210}^{t=-31} (AAR_t - \overline{A})^2)/179}$ (6)

$$\overline{A} = \frac{1}{180} \sum_{t=-210}^{t=-31} AAR_t \quad (7)$$

For tests over the multi-day intervals $(t_1, t_2)$, the test statistics is the ratio of the cumulative mean abnormal return to its estimated standard deviation, given by

$$\sum_{t=t_1}^{t_2} AAR_t / (\sum_{t=t_1}^{t_2} \hat{S}^2(AAR_t))^{\frac{1}{2}} \quad (8).$$

Dependent Variable

As dependent variable we use Cumulative Abnormal Return (CAR) from 3 days prior the merger announcement to 1 day after, as employed in previous study (Yeh and Hoshino, 2001). In order to check for robustness we also use as dependent variable CAR from 5 days prior to merger announcement to 2 days following the announcement.

Independent Variables

To evaluate the effect of merging partners' liquidity-growth complementary (H1a) we use the product of (Acquirer's Liquidity – Target's Liquidity) and (Target's Growth – Acquirer's Growth) as proposed by Sudarsanam, Holl and Salami (1996). The interaction term is positive

in case when one party is more liquid and the other has higher growth. Liquidity is measured as the ratio of working capital and total assets in the year before merger announcement. Growth is estimated as three years average sales growth prior to announcement year. We also tested H1a as proposed by Myers and Majluf (1984), by using dummy variable that equals 1 when high-liquid acquirer purchases high-growing, low-liquid target (high/low defined as above/below the respective acquirers' and targets' medians), but the coefficient is not significant.

The second independent variable is the difference between target's and acquirer's financial leverage (H1b). We define leverage as the ratio of total liabilities and shareholders' equity in year before merger announcement.

In order to test H2a and H2b we use target's growth, as well as the interaction term of target's growth and dummy variable that equals 1 when acquirer owns more that five percent of target's outstanding shares in year before merger announcement. We use five percent ownership level since, for listed companies, disclosure of ownership above this level is required according to shareholders' rules.

Bidder's past performance (H3) and rescue merger (H4) we measure as three years industry adjusted ordinary income growth of acquirer and target respectively.

Control Variables

Commonly used variable in mergers and acquisitions research is the relative size of merging parties. The relative size of target to acquirer is usually used as a proxy for gains from economies of scale and scope. Asquith, Bruner and Mullins (1983) found for sample of U.S. mergers that acquirers' returns are positively related to relative size of target and acquirer; a bid for a target half the acquirer's size produced 1.8 percent larger return comparing to bid for a target one tenth of acquirer's size. Villalonga and McGahan (2005) on the basis of Hennart's digestibility theory argue that merger is more complex to pursue when

size of partners is more balanced, since it is difficult for them to become digested by the other party. We measure relative size as log (Total Assets of Target/Total Assets of Acquirer).

Based on previous literature, we also include acquirers' large block-holders and management ownership as control variables (Kang, Shivadasani and Takeshi, 2000; Yeh and Hoshino, 2001). In large public companies, ownership components such as large block-holders and management ownership can be used in order to mitigate agency problems. According to Prowse (1992), large block-holders are usual in Japan with top five shareholders owning on average 33 percent of firm's outstanding shares. Such concentrated ownership can provide strong incentives for institutional investors to monitor management. We measure institutional ownership as a percentage of outstanding shares owned by top ten shareholders at the end of the year prior the merger announcement. Similarly, we define management ownership as the percentage of outstanding shares owned by top management at the end of year prior to merger announcement date.

Historically, M&A have not been attractive tools for business restructuring in Japan. The significant increase of merger activity is evident following "Tokyo Big Bang" reforms in April 1998, focused on deregulation of financial markets, as well as requirements for transparency in accounting practices and corporate governance. The increase in the number of deals was especially prominent in 1999 due to the revision of corporate laws; exchange (transfer) of shares for creating a 100 percent owned subsidiary was allowed in the major amendment. The changes in policy and government attitude could result in mergers following 1998 as differently perceived by market. We use dummy variable equal to one for mergers after 1998 in order to test for effects of government policy changes.

## ANALYSIS AND RESULTS

Univariate Analysis

-------Insert Table 1 about here-------

Table 1 shows abnormal returns cumulated during specific window intervals. The results suggest significantly positive market reaction prior to merger announcement (-5,-1). Also, market reacts favorably in various window intervals surrounding the merger announcement. If we examine the pattern following the deal announcement, cumulative abnormal return becomes significantly negative (1, 5). Kang, Shivadasani and Takeshi (2000) investigate mergers from 1977 to 1993. Their findings confirm positive abnormal returns in the short window around the deal announcement. Yeh and Hoshino's (2001) study for 1981-1998 show statistically significant losses around announcement date.

In order to preliminary access the effects of merging parties' pre-merger characteristics on acquirer's announcement returns, we bifurcate the sample as shown in the Table 3. We compare the five-days ( t = -3 to t =1) announcement return across pre-merger characteristics of merging parties. The mean value of bidders' CAR(-3,1) is 1.36 percent, statistically significant at 10 percent level. Further, we try to answer the question what characteristics of matched firms affect the return more positively.

------Insert Table 3 about here-------

Table 3 represents the five-days mean acquirers' return for various sub-samples of firms, t-tests of the difference in means across sub-samples and chi-squared tests for the difference in CAR percent positive.

We check whether the relative size of merging parties affects acquirer's shareholders' return. After comparing return of acquirers with relatively small target (ratio less than 50% of acquirer's size) to return of acquirers with relatively large target (ratio larger or equal to 50% of acquirer's size), we found no difference across sub-samples. The cumulative abnormal

returns are 1.17 percent and 1.48 percent respectively. These differences are not statistically significant. In contrast, Asquith at al. (1983) found that the relationship of CAR and size ratio for U.S. mergers is significantly positive, suggesting that merger with larger target advances value of acquiring firm.

As a preliminary observation on the effects of liquidity–growth differences, we divide the sample into sub-categories according to positive and negative *Liqdif_Grdif* variable. For a sub-group (36 companies) with positive value, the mean acquirer's return is 3.05 percent statistically significant at 1 percent level. The mean acquirer's return for negative value sub-category (26 companies) is -0.98 percent, statistically insignificant. The t-test of difference in means significantly differs from zero at 5 percent level, suggesting that mergers with either partner being more liquid and other having higher growth are attractive and favorably evaluated by market in comparison with deals by partners without such discrepancy. Statistically significant Chi-squared test for the difference in CAR percent positive at 5 percent level confirms that mergers by parties with growth-liquidity difference are attractive options for business restructuring. Similarly, findings by Sudarsanam et al. (1996) for United Kingdom mergers during 1980 to 1990 suggest that combination of firms with a complementary fit in terms of liquid resources and growth opportunities enhances shareholders' value.

Second, we separate the sample according to the difference in financial leverage between target and acquirer. In particular, we test whether the possibility to infuse capital into leveraged target can be regarded as a source of gain for acquirer. The mean acquirer's return for a sub-group with positive leverage difference (38 companies) is 1.74 percent, weakly statistically significant at 10 percent level. Sub-group with a negative leverage difference (24 companies) has mean acquirer's return of 0.75 percent, statistically insignificant. Acquiring target with higher financial leverage than bidder is relatively attractive in comparison to merging target with lower leverage. However, the t-test of difference in means is not

statistically significant, neither Chi-squared test for the difference CAR in percent positive. Slusky and Caves (1991) report significant positive relationship between leverage difference and bid premium in U.S. merger market.

Third, in order to access the effect of target's growth on acquirer's return, we divide sample into mergers with target growing faster than median and mergers with target growing slower than median. The mean acquirer's return of mergers with target growing faster than median is 1.59 percent, weakly statistically significant (p=0.108). For mergers with target growing slower than median, the mean return is 1.12 percent, statistically insignificant. Both sub-groups have positive acquirers' return above 1 percent, suggesting that in Japanese domestic mergers, target growth is not factor significantly influencing acquirers' return. T-test shows statistically insignificant difference, confirming the previous finding. However, Chi-squared test significant at 5 percent level indicates that mergers with fast-growing targets are relatively more attractive, since large percent of acquirers in fast-growing target sub-sample have positive CAR (67.7%). This finding implies that in Japanese domestic mergers 'buying growth' does not affect negatively firm's value, as opposite to prediction of our Hypothesis 2a. Our result contrasts with Morck et al. (1990) finding for U.S. merger market that suggests the destructive effect of 'buying growth' on firm's value.

Fourth, we bifurcate acquirers on sub-sample with ordinary income growth higher than industry average and ordinary income growth lower than industry average in order to examine Hypothesis 3. We use ordinary income growth as a proxy for the quality of past performance. Acquirers with past performance higher than industry average have statistically insignificant mean return of 0.75 percent, while acquirers with below-industry performance have mean return of 1.27 percent, also not significant at conventional level (p=0.12). The pattern of acquirers' returns across sub-groups is as predicted in Hypothesis 3. However, insignificant t-test and Chi-squared test do not support the predicted difference in returns across two sub-groups. The more explicit regression analysis examining the effect of acquirer's past

performance on acquirer's stock returns indicates that we cannot reject Hypothesis 3.

Finally, we test the impact of target's past performance as a proxy for rescue mergers in Japan. For acquirers merging targets with above-industry performance, the mean return is 0.48 percent, statistically indistinguishable from zero. On the other hand, acquiring below-industry performing target resulted in statistically significant mean return of 1.99 percent. According to t-test and Chi-squared test, the difference across sub-samples is not significant. However, above finding implies that acquiring poor-performing target does not affect negatively acquirer's return at merger announcement. At contrary, Kang's et al. (2000) study for 1977 to 1993 period indicates significantly negative effect of rescue mergers on acquirers' shareholders' value. Also, study by Inoue and Kato (2003) during 1990 to 2002 signifies negative impact of rescue merger on shareholders' return. It is possible that our result differs due to use of different measurement. We proxy rescue merger with target's industry adjusted ordinary income growth, while in previous studies data on rescue mergers are based on information from newspapers.

Multivariate Analysis

In this section we show results of regression analysis using as the dependent variable five-days cumulative abnormal return (t= -3 to t=1). All models include as control variables relative size of merging partners, bidders' management ownership, bidders' top ten block-holders' ownership, year dummy equaling 1 for mergers after 1998.

-------Insert Table 4 about here-------

Table 4 shows the results of Model 1 containing only control variables, Model 2 with valuation theory variables (H1a & H1b) added, Model 3 with empire building theory variables (H2a & H2b) added and the Model 4 with all variables (H3 & H4) included. The F test of model significance is not significant for Model 1, and significantly increases as the main variables are added. The first two hypotheses (H1a & H1b) test the impact of differences in

merging parties' financial resources allocation on acquirer's returns and predict the positive effect of respective differences on acquirer's firm value at announcement. The coefficients on *Liqdif_Grdif* and *Levdif* are positive and significant in all models; the results support H1a & H1b. In H2a we predict negative effect of 'buying growth' behavior on acquirer's return. We argue that prior ownership of acquirer in target will act as a factor buffering this detrimental effect (H2b). The coefficient on *Tgrowth* is negative, but insignificant in all models. Thus, we do not find support for detrimental effect of buying growing target in Japanese domestic mergers. Moreover, positive and significant coefficient on *Tgrowth_Own5* in all models indicates that buying growing target is beneficial for acquirers with prior ownership in target above five percent. In H3 we examine the effect of acquirer's industry adjusted past performance on returns at announcement. The logically expected effect would be that market favors mergers by above-industry performing acquirers, since such firms have already proven their ability to make good business decisions. However, the coefficient on *Bperf* is negative and significant, implying that market is suspicious at announcement of mergers by successful acquirers. In Hypothesis 4 we test for the impact of target's past performance on acquirer's return. The coefficient on *Tperf* is negative and insignificant. Thus, the result does not support the prediction that acquiring well-performing target is perceived favorably by market.

-------Insert Table 5 about here-------

In order to check for robustness, we estimate the models using as the dependent variable 8-days cumulative abnormal return (t=-5 to t=2). Table 5 shows that results are unaltered, essentially supporting the same hypotheses.

## DISCUSSION AND CONCLUSION

Domestic mergers in Japan have expanded rapidly in recent years, in terms of both, the number and the value of deals. Considering the rising prominence of mergers in Japan, important questions that can be posed are how mergers affect firm's value, as well as what are the underlying sources of value gains and losses.

Earlier studies on Japanese mergers commonly focus on implications of keiretsu groupings, main bank, rescue mergers and cross-corporate shareholding (Kang et al, 2000; Yeh and Hoshino, 2002; Schaik and Steenbeek, 2004). However, due to recent deregulation of Japanese financial markets, currently increased merger activity could be possibly attributed to different factors from previously stated.

The key objective of this study is to potentially add to understanding of mechanisms through which firm's value is created and destroyed in Japanese domestic mergers.

Our findings indicate that value is advanced in mergers when one partner has higher liquidity while the other has higher growth prospect, due to ability of liquid party to finance partner with growth opportunity. Also, acquiring target with higher financial leverage can become a source of gain, possibly due to tax savings on incremental debt for newly merged entity or decreasing the level of acquirer's free cash flow, therefore lessening managerial discretion and possibilities for conflict between management and shareholders (Jensen, 1986). Thus, differences in financial resources allocation pattern may provide a source of value enhancement. This view supports Harrison et al. (1991) argument that uniquely valuable synergy might be generated when differences exist between resources of merging parties. Such differences are difficult to perceive and emulate by potential competitive bidders due to asymmetric information, therefore lessening the probability of competitive bids and an auction. Similarly to our findings, Sudarsanam et al. (1996) study for United Kingdom provide empirical evidence that combination of firms with a complementary fit in terms of liquid resources and growth opportunities elevates shareholders' value.

Further, our study examines managerial objectives in terms of 'buying growth'. Extant research in U.S. and U.K. suggested that management compensation depends on the size of firm (Firth, 1980). Study by Morck et al. (1990) provides evidence that U.S. market perceives unfavorably mergers with rapidly growing targets. They also found the negative effect of diversifying mergers on shareholders' return. Nevertheless, in our sample there are only eight cases of mergers between parties belonging to different industries. This suggests that mergers in Japan are largely concentrated in adjacent business field, where newly acquired business is complementary to the acquirer's main business in order to strengthen utilization of existing resources, market power and economies of scale and scope. Thus, growth through diversifying mergers in Japan is not popular as in the case of U.S. merger market. Mergers concentrated in related field of business are compatible to Japanese management preference for internal growth, possibly occurring when internal growth efforts are hindered by internal resource constraints (Odagiri and Hase, 1989). Therefore, tendency of Japanese management to merge complementary business versus motivation of American management to grow through conglomerates might be reason for different result we obtain in terms of buying growth. Japanese market does not perceive unfavorably buying growth due to promising benefits stemming from economies of scale/scope and increased market power through mergers between same industry companies.

Further on, we explore the relation between the quality of acquirer's past performance and stock return. Morck et al. (1990) provide evidence that U.S. market favors mergers by well-performing acquirers, in contrast to our findings for Japanese mergers. In Japan, stockholders' return is lower following the announcement of mergers by well-performing firms than by poor-performing firms. This finding indicates that well-performing acquirers might have overoptimistic expectation on a particular deal. Our finding is consistent with hubris theory by Roll (1986), indicating that management of well performing firms is prone to overconfidence, resulting in overvaluation of merger and detrimental effect for acquirer's

shareholders. Since large scale mergers in Japan are often described as friendly deals between firms with established relationships (Kestner, 1991; Kruse et al, 2006) it can be argued that problem of winner's curse combined with hubris is less likely to occur in the Japanese market. However, due to lack of market for corporate control, management in Japan do not face monitoring by external market forces. Thus, increase in merger activity by overoptimistic management is quite possible.

Another factor we examine is the effect of target's past performance as a proxy for rescue merger. Finding for domestic mergers by Kang et al. (2000) indicates destructive effect of rescue merger on acquirer's value at announcement. In contrast, our result does not confirm negative impact of merging poor-performing target. Moreover, mergers with poor-performing target resulted with higher return. It is possible that nature of rescue merger is changing with deregulation and decreasing the role of main bank. Previously focused on costly salvation of distressed target under the pressure of main bank, the nature of rescue merger could shift to supporting partner in cases when continuing business relationship is worthwhile for acquirer. Otherwise, our result may differ due to use of different measurement.

In conclusion, our findings support the view that focus on specific resources combination between acquirer and target could become essential for shareholders' value upturn. In particular, financial resources spillover between merging companies has a potential to generate value enhancing synergy. Future research could access the impact of differences in resources on long-term performance of a merger. We find that well-performing acquirers achieve lower stock return at merger announcement, indicating that successful managers might be overconfident in their valuation of target firms. This evidence requires further consideration especially through examining long run performance of mergers by above industry performing acquirers. Our results are a subject to constraints due to, most importantly, short-run event study methodology. In order to access the full impact of complex events such as mergers, it should be accounted for longer-term measurements as well.

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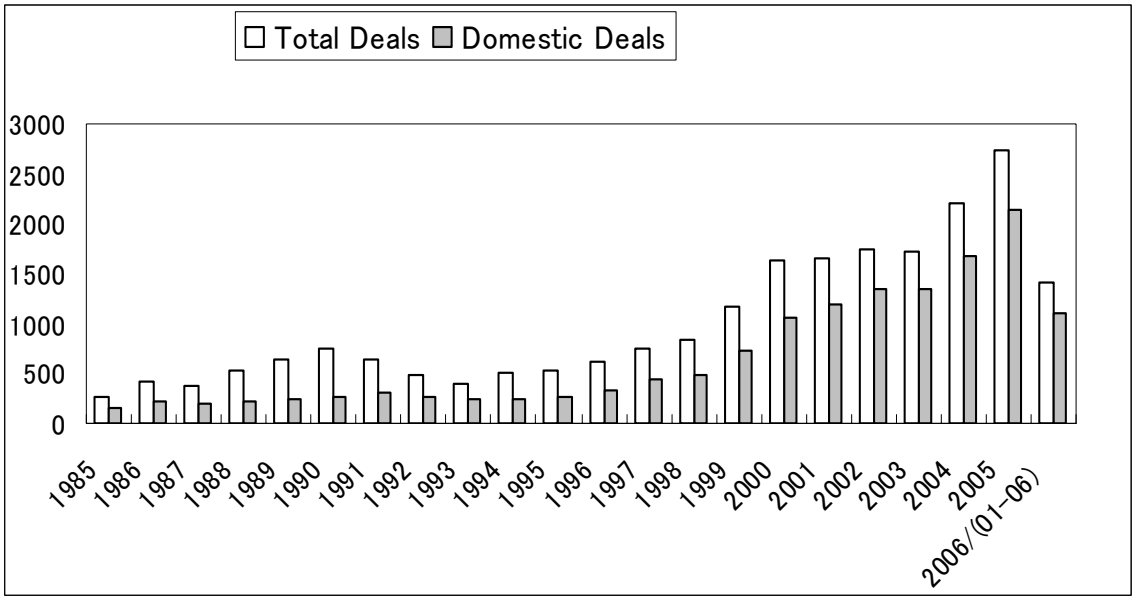


Figure 1. Number of Total Mergers Vs. Domestic Mergers

Note: Total mergers account for the sum of cross-border mergers by Japanese acquirers, domestic mergers by foreign acquirers and domestic mergers by Japanese acquirers.

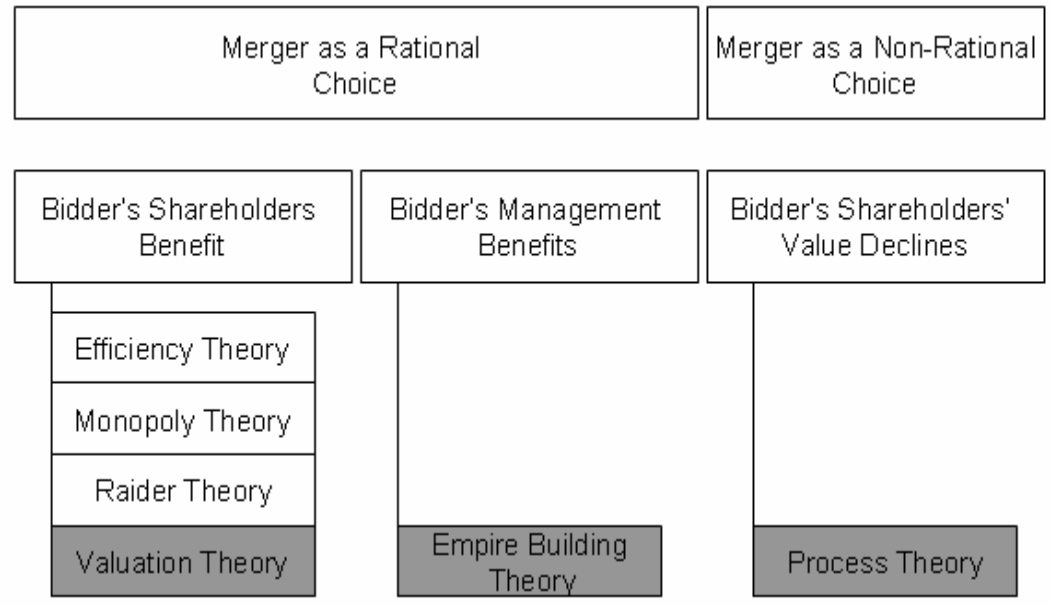


Figure 2. Theories of Merger Motives by Trautwein (1990)

Table 1. Cumulative Abnormal Returns (CARs) for Various Windows

| Window Interval | | | Mean CAR (%) | t-statistic (Two-tailed) |
|---|---|---|---|---|
| AD – 5 | to | AD – 1 | 1.22 | 1.705* |
| AD – 3 | to | AD – 1 | 0.90 | 1.622 |
| AD – 1 | to | AD | 1.64 | 3.605*** |
| AD – 1 | to | AD + 1 | 1.19 | 2.148** |
| AD – 3 | to | AD + 1 | 1.36 | 1.892* |
| AD – 5 | to | AD + 2 | 1.51 | 1.661 |
| AD – 5 | to | AD + 5 | 0.84 | 0.719 |
| AD – 10 | to | AD + 10 | 0.51 | 0.347 |
| AD – 20 | to | AD + 20 | 1.39 | 0.679 |
| AD – 30 | to | AD + 30 | 2.17 | 0.865 |
| AD – 30 | to | AD + 60 | 4.14 | 1.350 |
| AD + 1 | to | AD + 3 | -0.31 | -0.569 |
| AD +1 | to | AD + 5 | -1.28 | -1.783* |

***,**,* denote statistical significance level at 1%, 5%, and 10% respectively

Table 2. Variable Definitions

| Hypotheses | Variable Name | Variable Definition |
|---|---|---|
| | Liquidity | (Current Assets – Current Liabilities)/Total Assets in the year before merger AD year |
| | Growth | Average annual sales growth in the 3-year interval before merger AD year |
| | Leverage | Total Liabilities/Equity in the year before merger AD year |
| | Liqdif | Bidder's Liquidity -Target's Liquidity |
| | Grdif | Target's Growth -Bidder's Growth |
| H1a | Liqdif_Grdif | Product of LIQDIF and GRDIF |
| H1b | Levdif | Target's Leverage –Bidder's Leverage |
| | Own5 | 1 if bidder owns more than 5% of target's outstanding shares before the AD year;0 otherwise |
| H2a | Tgrowth | Target's Growth |
| H2b | Tgrowth_Own5 | Product of TGROWTH and OWN5 |
| H3 | Bperf | Bidder's 3-year Industry Adjusted Ordinary Income Growth |
| H4 | Tperf | Target's 3-year Industry Adjusted Ordinary Income Growth |
| | Control Variables | |
| | Rsize | Log(Target's Assets/Bidder's Assets) in the year prior to merger announcement |
| | Block | Sum of shares owned by top 10 acquirer's shareholders in the year before merger announcement |
| | Mown | Acquirer's top management ownership of outstanding shares in the year before merger announcement |
| | Ydummy | 1 if the announcement date is after 1998; 0 otherwise |
| | Bankruptcy | Log(Number of Bankruptcies in the year before merger announcement) |

Table 3. Sample Divided According to Firms' Pre-Merger Characteristics for CAR (-3,1)

| Pre-Merger Characteristics | Number of Observations & (% of CAR positive) | Mean CAR(%) & (p-value) | t-Test of Difference in Means | Chi-Squared Test of Difference in % > 0 |
|---|---|---|---|---|
| Rsize > 0.5 | 24 | 1.17 | t=-0.18 | $\chi^2 = 0.01$ |
| | (38.7) | (0.31) | (0.85) | (0.906) |
| Rsize < 0.5 | 38 | 1.48 | | |
| | (61.3) | (0.19) | | |
| Liqdif_Grdif > 0 | 36 | 3.05*** | t=2.57** | $\chi^2 = 6.23$** |
| | (66.6) | (0.010) | (0.0125) | (0.0126) |
| Liqdif_Grdif < 0 | 26 | -0.98 | | |
| | (34.6) | (0.312) | | |
| Levdif> 0 | 38 | 1.74* | t=0.58 | $\chi^2 = 2.84$ |
| | (44.7) | (0.101) | (0.557) | (0.091) |
| Levdif < 0 | 24 | 0.75 | | |
| | (66.6) | (0.569) | | |
| Tgrowth faster | 31 | 1.59 | t=0.29 | $\chi^2 = 5.25$** |
| than Sample Median | (67.7) | (0.108) | 0.77 | (0.022) |
| Tgrowth slower | 31 | 1.12 | | |
| than Sample Median | (38.7) | (0.39) | | |
| Bperf higher than | 32 | 0.76 | t=-0.75 | $\chi^2 = 1.07$ |
| Industry Average | (46.8) | (0.45) | 0.454 | (0.300) |
| Bperf lower than | 30 | 1.27 | | |
| Industry Average | (60) | (0.12) | | |
| Tperf higher than | 26 | 0.48 | t=-0.92 | $\chi^2 = 0.19$ |
| Industry Average | (50) | (0.643) | 0.36 | (0.665) |
| Tperf lower than | 36 | 1.99* | | |
| Industry Average | (55.5) | (0.099) | | |

***,**,* indicates significance at 1%, 5% and 10% respectively.

Table 4. Dependent Variable Cumulative Abnormal Return CAR(-3,1)

| Variable | Hypotheses | (1) | (2) | (3) | (4) |
|---|---|---|---|---|---|
| Liqdif | | | -0.039 | -0.037 | -0.045 |
| | | | (0.87) | (0.81) | (0.92) |
| Grdif | | | -0.007 | 0.002 | 0.053 |
| | | | (0.24) | (0.04) | (0.59) |
| Liqdif_Grdif | H1a | | 0.365 | 0.335 | 0.340 |
| | | | (3.24)*** | (3.08)*** | (2.60)** |
| Levdif | H1b | | 0.0003 | 0.0004 | 0.0005 |
| | | | (2.18)** | (3.61)*** | (3.79)*** |
| Tgrowth | H2a | | | -0.085 | -0.111 |
| | | | | (0.53) | (0.62) |
| Tgrowth_Own5 | H2b | | | 0.974 | 0.988 |
| | | | | (3.14)*** | (3.03)*** |
| Own5 | | | | 0.003 | 0.008 |
| | | | | (0.22) | (0.49) |
| Bperf | H3 | | | | -0.008 |
| | | | | | (2.75)*** |
| Tperf | H4 | | | | -0.002 |
| | | | | | (1.48) |
| Rsize | | -0.013 | 0.012 | 0.011 | 0.014 |
| | | (0.51) | (0.43) | (0.38) | (0.49) |
| Block | | 0.034 | -0.013 | -0.027 | -0.028 |
| | | (0.58) | (0.28) | (0.57) | (0.56) |
| Mown | | -0.045 | 0.0002 | -0.030 | -0.039 |
| | | (0.53) | (0.03) | (0.37) | (0.45) |
| Year (After 98) | | 0.044 | 0.043 | 0.044 | 0.047 |
| | | (2.73)*** | (2.77)*** | (2.81)*** | (3.10)*** |
| Constant | | -0.023 | -0.012 | -0.001 | -0.004 |
| | | (0.80) | (0.49) | (0.04) | (0.15) |
| Observations | | 62 | 62 | 62 | 62 |
| $R^2$ | | 0.122 | 0.275 | 0.333 | 0.361 |
| F | | 1.98 | 2.52 [a] | 2.27 [a] | 2.08 [a] |

(1) Absolute value of t statistics in parentheses. (2)***,**,* indicates significance at 1%, 5% and 10% respectively. (3) [a] $p < 0.05$

Table 5. Dependent Variable Cumulative Abnormal Return CAR(-5,2)

| Variable | Hypotheses | (1) | (2) | (3) | (4) |
|---|---|---|---|---|---|
| Liqdif | | | -0.020 | -0.018 | -0.029 |
| | | | (0.49) | (0.42) | (0.64) |
| Grdif | | | 0.049 | 0.044 | 0.064 |
| | | | (1.37) | (0.86) | (0.81) |
| Liqdif_Grdif | H1a | | 0.260 | 0.240 | 0.214 |
| | | | (2.65)** | (2.42)** | (1.76)* |
| Levdif | H1b | | 0.0003 | 0.0004 | 0.0005 |
| | | | (2.56)** | (2.99)*** | (3.09)*** |
| Tgrowth | H2a | | | -0.043 | -0.043 |
| | | | | (0.26) | (0.24) |
| Tgrowth_Own5 | H2b | | | 0.964 | 0.975 |
| | | | | (2.10)** | (2.01)** |
| Own5 | | | | 0.003 | 0.011 |
| | | | | (0.18) | (0.56) |
| Bperf | H3 | | | | -0.010 |
| | | | | | (3.53)*** |
| Tperf | H4 | | | | -0.001 |
| | | | | | (0.65) |
| Rsize | | -0.021 | 0.001 | 0.002 | 0.011 |
| | | (0.85) | (0.05) | (0.07) | (0.35) |
| Block | | 0.017 | -0.012 | -0.026 | -0.022 |
| | | (0.32) | (0.24) | (0.51) | (0.42) |
| Mown | | -0.062 | -0.006 | -0.043 | -0.050 |
| | | (0.79) | (0.08) | (0.49) | (0.56) |
| Year (After 98) | | 0.052 | 0.050 | 0.050 | 0.057 |
| | | (3.39)*** | (3.30)*** | (3.32)*** | (4.00)*** |
| Constant | | -0.014 | -0.009 | 0.001 | -0.011 |
| | | (0.47) | (0.31) | (0.03) | (0.37) |
| Observations | | 62 | 62 | 62 | 62 |
| $R^2$ | | 0.168 | 0.256 | 0.315 | 0.365 |
| F | | 2.88 [a] | 2.28 [a] | 2.09 [a] | 2.13 [a] |

(1) Absolute value of t statistics in parentheses. (2)***,**,* indicates significance at 1%, 5% and 10% respectively. (3) [a] $p < 0$.

Table 6. Descriptive Statistics and Correlations

| | | Mean | S.D. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CAR(-3,1) | 0.013 | 0.063 | 1 | | | | | | |
| 2 | CAR(-5,2) | 0.015 | 0.062 | 0.86 | 1 | | | | | |
| 3 | Liqdif | 0.035 | 0.220 | -0.27 | -0.16 | 1 | | | | |
| 4 | Grdif | -0.022 | 0.131 | 0.03 | 0.16 | 0.03 | 1 | | | |
| 5 | Levdif | -1.593 | 27.51 | 0.06 | 0.09 | 0.12 | 0.04 | 1 | | |
| 6 | Rsize | 0.736 | 0.546 | -0.02 | -0.04 | 0.16 | -0.13 | -0.40 | 1 | |
| 7 | Own5 | 0.112 | 0.319 | -0.13 | -0.13 | 0.07 | -0.02 | 0.15 | -0.15 | 1 |
| 8 | Tgrowth | -0.001 | 0.071 | -0.03 | 0.10 | 0.01 | 0.68 | 0.10 | -0.23 | -0.14 |
| 9 | Bperf | -0.210 | 1.581 | -0.07 | -0.13 | -0.04 | -0.02 | 0.05 | 0.14 | 0.13 |
| 10 | Tperf | 0.294 | 5.102 | 0.03 | 0.13 | -0.05 | 0.56 | -0.01 | -0.25 | -0.03 |
| 11 | Year | 0.645 | 0.482 | 0.33 | 0.38 | 0.002 | 0.09 | -0.08 | 0.21 | -0.05 |
| 12 | Mown | 0.034 | 0.075 | -0.05 | -0.08 | -0.13 | -0.25 | 0.02 | 0.14 | 0.03 |
| 13 | Block | 0.499 | 0.158 | 0.10 | 0.06 | -0.32 | -0.04 | -0.06 | 0.12 | 0.06 |

| | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|
| 8 | 1 | | | | | |
| 9 | 0.02 | 1 | | | | |
| 10 | 0.21 | -0.44 | 1 | | | |
| 11 | 0.08 | 0.25 | -0.12 | 1 | | |
| 12 | 0.02 | 0.11 | -0.33 | 0.002 | 1 | |
| 13 | -0.01 | 0.15 | -0.14 | 0.11 | 0.16 | 1 |

Table 7. The List of Merging Companies with Announcement Dates

| AD | Stock# | Acquirer | Stock# | Target |
|---|---|---|---|---|
| 29/1/1993 | 3861 | Oji Paper Co. | 3867 | Kanzaki Paper Mfg. |
| 12/11/1993 | 5233 | Onoda Cement | 5236 | Chichibu Cement |
| 24/12/1993 | 4010 | Mitsubishi Kasei | 4184 | Mitsubishi Petrochemical |
| 10/3/1994 | 5232 | Sumitomo Cement | 5235 | Osaka Cement |
| 27/7/1994 | 4103 | Taiyo Sanso | 4090 | Toyo Sanso Co. |
| 11/2/1995 | 1850 | Nankai Construction Co. | 1859 | Tatsumura Gumi Co. |
| 30/3/1996 | 3861 | New Oji Paper | 3862 | Honshu Paper Co. |
| 9/9/1996 | 4183 | Mitsui Petrochemicals | 4001 | Mitsui Toatsu Chemicals |
| 21/9/1996 | 5390 | Ube Chemical Industry | 5385 | Calceed Co. |
| 2/11/1996 | 1912 | Misawa Cheramics Co. | 4230 | Misawa Cheramics Chemical Co. |
| 25/2/1997 | 4509 | Yoshitomi Pharmaceutical | 4522 | The Green Cross Corp. |
| 5/5/1997 | 6311 | Seirei Industry Co. | 6115 | Shoun Machine Tool Co. |
| 25/7/1997 | 9987 | Suzuken | 9933 | Akiyama Inc. |
| 3/10/1997 | 5233 | Chichibu Onoda Cement | 5231 | Nihon Cement |
| 9/2/1998 | 3941 | Rengo | 3883 | Setsu |
| 13/3/1998 | 8110 | Kawasho Corp. | 8055 | Nozaki & Co. |
| 28/3/1998 | 9101 | Nippon Yusen K.K | 9126 | Showa Line Ltd. |
| 18/4/1998 | 9896 | Maruyoushi Co. | 8121 | Kokoku Housing Co. |
| 21/8/1998 | 7526 | Valeo Co. | 9851 | Hoshi Ito |
| 2/9/1998 | 6448 | Brother Ind. | 8162 | Brother Sales |
| 28/10/1998 | 5001 | Nippon Oil Co. | 5004 | Mitsubishi Oil Co. |
| 21/11/1998 | 9104 | Mitsui O.S.K Lines Ltd. | 9105 | Navix Line Ltd. |
| 14/1/1999 | 2579 | Kita Kyusyu C.C Bottling | 2574 | Sanyp C.C Bottling |
| 23/1/1999 | 9894 | Kyuko Pharmaceutical | 7436 | Unik Co. |
| 11/2/1999 | 3868 | Takasaki Paper Mfg. | 3885 | Sanko Paper Mfg. |
| 1/3/1999 | 7270 | Fuji Heavy Industry | 8294 | Chuo Subaru Inc. |
| 24/3/1999 | 7248 | Calsonic | 7281 | Kansei |
| 2/4/1999 | 7868 | Kosaido Printing Co. | 7924 | Kansai Kosaido Co. |
| 21/5/1999 | 2538 | Chuyou | 2803 | Marukin Shoyu |
| 26/8/1999 | 6107 | Amada Sonoike | 6108 | Amada Wasino |
| 19/10/1999 | 4088 | Daido Hokusan | 4108 | Kyodo Oxigen Co. |
| 25/11/1999 | 8015 | Toyota Tsusho | 8069 | Kasho |
| 13/1/2000 | 1951 | Kyowa Exeo | 1842 | Showa Technos |
| 17/2/2000 | 5012 | General Sekiyu K.K | 5005 | Tonen Corp. |
| 23/3/2000 | 5728 | Tokyo Tungsten | 6126 | Osaka Diamond Inc. Co. |
| 23/3/2000 | 5391 | Ask Corp. | 5272 | Asano Slate Co.Ltd. |

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| 27/3/2000 | 3863 | Nippon Paper Ind. | 3871 | Daishowa Paper Mfg. |
| 23/5/2000 | 1987 | Hiroshima Kensetsu C.T | 1746 | Konwa Kensetsu |
| 17/11/2000 | 4005 | Sumitomo Chemical Co. | 4183 | Mitsui Chemical Ind. |
| 22/3/2001 | 2114 | Nihon Sugar Refining | 2111 | Fuji Seito |
| 14/4/2001 | 5403 | Kawasaki Steel Corp. | 5404 | NKK Corp. |
| 8/5/2001 | 8199 | Deo Deo | 8161 | Eiden |
| 7/9/2001 | 7583 | Tsusho Co. | 7489 | Ochi Sangyo Co. |
| 17/9/2001 | 4535 | Taisho Pharmaceutical | 4508 | Tanabe Seiyaku Co. |
| 26/4/2002 | 1871 | PS | 1996 | Mitsubishi Construction |
| 13/6/2002 | 6421 | Canon Aptex | 6442 | Copyer Co. |
| 7/1/2003 | 4902 | Konica Corp. | 7753 | Minolta Co. Ltd. |
| 14/2/2003 | 6426 | Sammy Corp. | 7964 | Sega Corp. |
| 19/5/2003 | 1805 | Tobishima Corp. | 1861 | Kumagai Gumi |
| 12/7/2003 | 6933 | Yuasa Corp. | 6931 | Japan Storage Battery Co. |
| 10/10/2003 | 6712 | Tamura Electric Works Ltd. | 6710 | Taiko Electric Works |
| 25/2/2004 | 4503 | Yamanouchi Pharmaceutical | 4511 | Fujisawa Pharmaceutical |
| 28/2/2004 | 3947 | Dainippon Shigyo | 3949 | Nippon Hi-Pack |
| 25/6/2004 | 7972 | Itoki Krebio | 9871 | Itoki |
| 10/7/2004 | 9204 | Skymark Airlines | 4697 | Zero Inc. |
| 8/12/2004 | 7254 | Fuji Univance | 7295 | IS Precission Machinery |
| 1/2/2005 | 3877 | Chuetsu Pulp&Paper | 3864 | Mitsubishi Paper Mills |
| 4/2/2005 | 6473 | Koyo Seiko Co. Ltd. | 6206 | Toyoda Machine Works |
| 17/2/2005 | 7603 | Mac House | 7495 | Leo Co. |
| 1/4/2005 | 9719 | Sumisho Computer Systems | 7556 | Sumisho Electronics Co. |
| 10/9/2005 | 5989 | Hirata Technical Co. | 3425 | Hongo Co. |
| 14/9/2005 | 2001 | Nippon Flour Mills Co. | 2007 | Fuji Flour Milling |