DIVESTMENT MANAGEMENT BUY-OUTS IN JAPAN: PERFORMANCE, GOVERNANCE, AND BUSINESS STRATEGIES OF SELLER FIRMS*

Shinya Kawamoto**, *Takashi Saito*******

Abstract

This study has examined cases of management buyouts (MBOs), which have been increasing rapidly in number since around 2000. First, an overview of MBO practices is provided, indicating the beginning of an increase in divestment-type MBOs as a new means to implement corporate restructuring. Subsequently, the factors used by Japanese companies to decide on whether to pursue divestment MBO were analyzed while particularly addressing the parent companies––the sellers of the business units. Results suggest the following factors leading to the parent company divestment of subsidiaries and business units through MBOs: 1) poor performance of the business of the parent company, 2) high debt-to-asset ratio (debt reliance) of the parent company, 3) wide diversification of parent company operations, and 4) active reorganization of the parent company's corporate group. The structure of corporate governance also affects MBO trends, indicating that 5) companies for which shareholding ratios of institutional investors and directors are high are more likely to implement a divestment MBO. Conversely, 6) companies that are protected by cross-shareholdings are less likely to implement corporate restructuring.

Key words: MBO, Divestment, Corporate governance, Business strategy, Count data, Panel data

* *For preparation of this article, we had the opportunities to report this study at Japanese Economic Association, Japan Association for Applied Economics, the corporate governance study group of the Research Institute of Economy, Trade and Industry, and the Graduate School Workshop on Business and Economics. We received beneficial remarks from Kenta Funaoka, Hironobu Miyazaki, Akira Nagae, Kenta Nakamura, Takuji Saito, Konari Uchida, and Ken Yamamoto. We hereby express our gratitude to them. Kawamoto has received a science research grant (proj. no. 21730322) from the Japan Society for the Promotion of Science. Saito has received a grant (proj. no. 20730155) from the same.*

** *Corresponding author, Waseda Institute for Advanced Study, Waseda University, 1-6-1, Nishiwaseda, Shinjuku-ku, Tokyo 169-8050, Japan*
Tel: +81-3-5286-2108, Fax: +81-3-5286-2470, Email: skawamoto@aoni.waseda.jp
*** *Waseda Institute for Advanced Study, Waseda University*

1. Introduction

Since the latter half of the 1970s, the practice of management buyouts (MBO) has been used increasingly, primarily in Europe and North America and in the rest of the world, as an effective means of corporate reorganization. To put it simply, an MBO is defined as a scheme by which company managers gain the right to control of an enterprise based on ownership by purchasing outstanding shares of their own company (Milgrom and Roberts, 1992, p.483). That change of ownership is achieved according to the various motives of sellers and buyers. Each case has markedly different characteristics. For instance, a subsidiary MBO aimed at independence of a subsidiary from its parent company that is restructuring its business and an MBO of a publicly traded company seeking to contain the risk of a hostile takeover can not be discussed on the same grounds.

Among MBOs presenting such diversity, one that is used particularly often is a divestment MBO implemented when management of a subsidiary or business unit becomes independent. In the example of the U.K., which is known for its active practice of MBOs, 30%–40% of buyouts undertaken in the late 1980s and 1990s and approximately 25% of those undertaken in the first half of the 2000s were intended for the divestment of domestic companies. In other European countries, too, the divestment type of buyout comprises approximately 40% of all cases (Wright et al., 2007, p.19), suggesting that MBOs

have been used traditionally not only in the U.K., but more widely throughout Europe when conglomerates sell their non-core businesses.[1]

Quite interestingly, such characteristics of the MBO market in European countries are shared by Japanese counterparts. Since 2000, the number of MBO cases and the market size in Japan have also been increasing (Fig. 1), amounting to 430 cases valued collectively at 1.6 trillion yen by March 2008. Our independent studies indicate that 80% of cases and 40% of the aggregate value can be categorized as divestment MBOs (details follow). The growth of unrelated diversification in the latter half of the 1980s, the long-term recession lasting a decade in the post-bubble economy, and transformation of corporate governance structures have strongly demanded the maximization of corporate value as in Europe, where implementation of MBOs is encouraged as a means of corporate restructuring.[2]

--- Fig. 1 around here ---

Then, what are the motives for such MBOs? Haynes et al. (1999) and Haynes et al. (2003) analyzed the determinants of U.K. companies' divestment, finding that MBO determinants are 1) poor business performance, 2) high debt-to-equity ratio, and 3) diversified operations. Meanwhile, what is the case for Japanese companies? Unfortunately, with the exception of one investigation based on case studies (Wright et al., 2003), no study that can answer this question with verifiable evidence has been reported.[3] Accordingly, this study is intended to provide basic information about Japan's MBO market, which has been growing rapidly in recent years. This report explains the determinants of divestment MBOs of Japanese companies by particularly addressing the parent companies' roles as sellers of their business units from the perspectives of 1) business performance, 2) corporate governance, and 3) business strategy.

This article is composed as follows: The second section categorizes past MBO cases in Japan, briefly reviews them, and describes the motives of stakeholders (parent companies, subsidiaries, and buy-out funds) that are deeply involved in the implementation of divestment MBOs. The third section presents hypotheses for determination of divestment MBOs. Subsequently, the fourth section provides a description of the estimation model and the dataset used to verify the hypotheses. The fifth section presents and interprets results of the estimation. Finally, the sixth section is dedicated to the conclusion and future issues to be addressed.

2. Background of the formation of divestment MBOs

This section presents categorization of the MBO cases that have been implemented in Japan in the past. This will be followed by examination of the background of the formation of divestment MBOs that are used particularly often from the perspectives of 1) parent companies that divest themselves of their subsidiaries or business units, 2) subsidiaries or business units to be divested, and 3) buy-out funds that provide funds for divestment.[4]

2.1 Overview of MBO market

The Centre for Management Buy-out Research (CMBOR)[5], which is an international MBO research organization, has provided a benchmark for the MBO categorization. By referring to this, we have grouped the past MBO cases in Japan into the following four types.[6]

[1] In the case of the U.K., however, since the latter half of the 1990s, buyouts of the business continuity (family-private) type, which are described later, comprised approximately 30% (in terms of monetary value). The position of the divestment type practiced by domestic parent companies declined slightly (Wright et al., 2006, p.11).

[2] In the post-bubble economy after the 1990s, the structure of Japan's corporate governance faced serious challenges. While the Main Bank System, which symbolizes the Japanese style of corporate systems, declined and the practice of cross-shareholdings decreased, institutional investors became more prominent in the stock ownership structure and began to exert strong influences on corporate management. Boards of directors comprised mainly of internally promoted executives were also included in the reform, and efforts such as employing external directors and introducing of stock options were made. Detailed descriptions of Japanese companies' corporate governance are provided by Jackson and Miyajima (2007).

[3] Although Fukui and Ushijima (2007) studied the divestment behavior of Japanese companies, the study did not specifically examine divestment management buyouts. Moreover, the analysis is limited to data through 2000.

[4] An MBO helps improve capital efficiency by making the purchase with less capital and leveraging it (through borrowing). For this reason, MBOs are sometimes described as a type of leveraged buyout (LBO) and the role of the creditors as stakeholders cannot be overlooked. Existing databases, however, fail to provide systematic information about the creditors. Therefore, an analysis of them has been omitted from this discussion.

[5] The CMBOR is a research institution founded at Nottingham University Business School in 1986. It has remained active in the development of databases and studies of buy-outs in the U.K. and continental Europe. See the website of the CMBOR at http://www.nottingham.ac.uk/business/cmbor. Cited 26 Nov. 2009.

[6] Moreover, there is such a type as "privatization" used for the public sector; however, this type has not been witnessed in Japan. Therefore, it has not been included in the study. Refer to CMBOR (1991), Wright et al. (2006) for the MBO classification by CMBOR.

- **Divestment type**

An MBO conducted by the management of a business unit or subsidiary that will become independent when a domestic or overseas company intends to sell its non-core or unprofitable business.

- **Family-private type**

An MBO conducted by an internal party wishing to continue a business of a family or founder company when continuation becomes difficult.

- **Public-to-private type**

An MBO in which withdrawal from the stock market is chosen in an attempt to make radical changes to management strategy, achieve long-run management, or to resist a hostile takeover.

- **Receivership type**

An MBO conducted by the management and/or employees of a company for the purpose of, for instance, maintaining employment when the company or its parent company has become bankrupt and has begun legal procedures.

The analyses were performed using 430 cases that were examined by the press during fiscal years 1996–2007, which were extracted from *Marr M&A Data* (CD-ROM edition) supplied by RECOF.[7] The categorization used information about cases detailed in *M&A Data Book of Japanese Companies 1985–2007*, also from RECOF, augmented by relevant articles from Nikkei newspapers collected comprehensively using Nikkei Telecom 21, from which the most emphasized motives were identified.

--- Table 1 around here ---

Table 1 exhibits the results of the calculation. First, the value-based figures exhibit the prominence of public-to-private type of MBOs (Panel A). The total amounts to 850 billion yen, constituting more than half (51.7%) of Japan's MBO market. The value per case is approximately 29 billion yen, which is higher than the value per case of any of the other types. The highest in monetary value was the case of Skylark in May 2006, in which several buy-out funds, including Nomura Principal Finance, teamed up and achieved the largest MBO ever in the country, with value exceeding 250 billion yen.

The figures based on the number of cases reveal a considerably different picture (Panel B). Divestment MBOs were 347 cases, comprising 80.7% of the total number of cases,[8] although the public-to-private type of MBOs were only 29 cases (6.7%) despite being the highest in value.[9] The breakdown reveals some clear tendencies, which are that 319 cases (74.2%) of the sales deals are sales of subsidiaries and that 325 cases (75.6%) involve Japanese companies as the major sellers. The MBOs of this type tend to have a low relative value per case (approximately 3 billion yen), which results from the fact that not only large companies such as those listed on the three major markets (Tokyo, Osaka, and Nagoya Stock Exchanges), but emerging companies such as those listed on JASDAQ and Mothers are also actively selling their affiliated private companies through MBOs (Table 2). Although MBOs tend to give an impression of being the public-to-private type, which have a high disclosed value, the divestment type is predominant in the number of cases, suggesting that MBOs are increasingly considered by companies as a new tool for group reorganization.

--- Table 2 around here ---

2.2 Motives of stakeholders

Motives of parent companies

What are the motives for implementing such divestment type of MBOs? First, the motives of the parent companies include the following three.

The first motive is the sale of non-core businesses. Many companies sold their business units and subsidiaries that had failed to achieve synergy with their principal businesses. The "selection and concentration" strategy began to be used after the mid-1990s; MBOs came to be used as one means to execute such sales. In general, poorly performing businesses tend to be selected for sale, but cases in which even profitable businesses are sold for being non-core businesses have become increasingly more frequent. A symbolic example is the MBO of Toshiba Ceramics Co. Ltd. The parent company, Toshiba Corp., intended to clarify that the company planned to concentrate on its core businesses of semiconductors and nuclear power, and opted for selling one of its profitable subsidiaries (Case 1 of Table 3).

The second motive is the reduction of interest-bearing debt. The case of Nissan Motor Co. Ltd. is a typical example. After April 2000, Nissan accelerated

[7] This study has set the state in which (at least) one internal person has joined the business sold to a new management team (Saadouni et al., 1996, p.86) as a condition to identify an MBO. Consequently, the cases of management buy-ins (MBI), in which an external party leads the management after the purchase, have been excluded. The cases of employee buyouts (EBO), in which employees lead the purchase, and management and employee buyouts (MEBO), in which the management and employees make the purchase in cooperation, are included in the sample.

[8] However, attention must be given to the fact that the ratio of this type tends to be somewhat high because the cases in which a sale to a business unit or subsidiary management team is recognized are identified as divestment MBOs.

[9] The characteristics of such cases of the public-to-private type in their shares of value and the number of cases are also similar to the MBO market in Europe (Wright and Bruining, 2008, p.10).

the sale of its subsidiaries' stocks under the Nissan Revival Plan of the then-COO, Carlos Ghosn, to reduce the company's interest-bearing debt, which had accumulated to 2 trillion yen on a consolidated basis. In the process, companies such as Vantec, Kiriu, and Zero were sold one after another through MBOs (Cases 10, 13, and 19 of Table 3).

The third motive is related to considerable changes in accounting standards made in the year ending March 2000. This facilitated the sale of businesses for the motives described above. Because of a shift to a disclosure system with the principle of consolidated accounts, the cost of maintaining loss-making businesses that would impair the consolidated financial statements and non-core businesses that would not contribute to group management increased. For that reason, MBOs were used as a means to terminate capital relationships with such businesses.

--- Table 3 around here ---

Motives of subsidiaries[10]

Whether for the concentration of management resources on the principal business or reduction of interest-bearing debts, however, these purposes can be served through the sale of a subsidiary by its parent company, which does not necessitate an MBO. Accordingly, the motives of the subsidiary that engender an MBO also become important.

The first of such motives is ensuring business continuity. In contrast to the sale to other companies, an MBO requires no replacement of the management and is likely to allow employee relations to be maintained, which is more acceptable on the side of the subsidiary.

Furthermore, numerous subsidiaries implement MBOs with the motive of diversifying their customer relationships. This might also be more beneficial on the part of their parent companies, too, in maintaining their business relationships with their former subsidiaries rather than selling them to their competitors. The MBOs of Vantec and Zero described earlier correspond to this rationale.[11]

Furthermore, an MBO can present an opportunity for changing the management strategy. By leaving the protection of the parent company, business managers and employees can consider themselves as principal players; their morale improves. This simultaneously supports investment activities and research and development that might not have been possible under the restriction of the parent company.

Moreover, development of institutional infrastructure encouraged the selection of an MBO when a subsidiary is to be sold. In April 2003, for example, the Law for Special Measures Reviving Industrial Vitality was revised to allow, although for a limited period, the squeezing out of minority shareholders after a takeover bid using the exchange of money grant stocks. In September 2007, the Ministry of Economy, Trade and Industry (METI) issued guidelines to explain the fair conduct of MBOs.

Motives of buy-out funds

Although an MBO is translated directly as "purchase by the management," the cooperation of buy-out funds is necessary. The shareholding ratio of the management after an MBO involving a high purchase price is limited to less than 10%, and buy-out funds are relied upon for most part.[12] In fact, both the number of cases in which buy-out funds are involved––and their scales—are too significant to overlook. In 2006, the number of such cases comprised 35% and the value reached 97% (Fig. 1).[13]

The motives of buy-out funds for funding MBOs derive from such benefits as 1) the period until exit from the investment is short and 2) solid returns can be expected. The environment for the investment on venture companies has been less lucrative since the collapse of the IT bubble, and MBOs that have a stable profit base and are likely to create a solid cash flow are now considered good investments.[14]

It is also important that the involvement of buy-out funds brings certain benefits to both the parent company and its subsidiary. The parent company is able to increase the selling price by making fund providers compete against one another and reduce the risk of getting the price beaten down by the subsidiary management, which has the advantage of having more information.[15] Meanwhile, the subsidiary not only has the fundamental benefit of receiving the funds for becoming independent, but is able to receive support of various types (cross-utilization) that had never been

[10] Chapter 6 (MBO) of Ozeki and Komoto (2006), etc. were used as references for this part.

[11] "Kawaru Mikoukaikabutoushi (changing private equity investment)." *Nihon Keizai Shimbun*, Jul. 13, 2001.

[12] Of the divestment MBOs considered in this study, the average share of independent management teams in their own companies that already know the share of their management was 74.3% for all (138) cases, 36.5% for the cases worth one billion yen and above (21 cases), and 9.1% for the cases worth five billion yen and above (5 cases).

[13] This means that the value of cases in which funds were involved is 97%, and not that 97% was funded by them.

[14] "VC Chosa Kara (Chu) (from VC studies (No.2))." *Nihon Keizai Shimbun*, Jul. 9, 2007.

[15] Although not the divestment type, but an executive of the fund that joined the competition for stocks, when Suntelephone conducted an MBO, it stated that when they are placed in the state of competition, they have no choice but to raise the bid prices higher than they do in direct negotiations. "Kensho MBO (Jo) (MBO examination No.1)." *Nikkei Kinyu Shimbun*, Jun. 27, 2007.

possible—including strengthening its financial system, support for strategic M&A, and development of new customers (Sugiura, 2005, p.231)—from the buy-out funds that share the objective of public offering of stocks and which excel in management advisory (Hite and Vetsuypens, 1989, p.956-957).

3. Hypotheses for the determinants of divestment MBOs

A divestment MBO is conducted for a range of mutually intersecting stakeholder motives, as described above. Incorporating all of them in an empirical analysis would be difficult because of a limited dataset and space. The following, therefore, is an attempt to explain, as the primary approach, the types of companies that engage themselves in divestment MBOs (DMBOs) based on the motives of the parent companies that are publicly traded in Japan. First, the factors affecting the implementation of DMBOs by parent companies are broadly divisible into three hypotheses (performance hypothesis, corporate governance hypothesis, and business strategy hypothesis) developed while referring to the preceding discussions and from reference to Haynes et al. (1999), and Haynes et al. (2003), as presented in the section below.

3.1 Performance hypothesis

H 1: The more poorly a business is performing, the more likely the parent company is to implement a DMBO.

Companies whose businesses are not producing profits are more likely to restructure their businesses voluntarily. John et al. (1992) reports that companies voluntarily reduce their businesses by selling their assets and subsidiaries and that they restructure their organizations by reducing employees and debts. Kang and Shivdasani (1997) uses Japanese companies as a sample that is analyzed to show that poorly performing companies carry out voluntary restructuring, including reduction of assets, employment, and salaries and change of management staff. In this study, a DMBO is positioned as a form of asset reduction.

Return on assets (*ROA*) and price-to-book value ratio (*PBR*) are used as the performance indicator variable, *PERF*. The former is defined as the operating income divided by total assets and the latter is defined as the stock price divided by shareholders' equity per share. The expected signs are both negative.

H2: The larger the amount of debt and the heavier the service burden, the more likely the parent company is to opt for a DMBO.

As pointed out by Aghion and Bolton (1992) and Hart and Moore (1998), debts compel management to improve the business efficiency because they are afraid of losing their right to management control as a result of bankruptcy. According to Jensen (1986), debts have the effect of preventing management from wasting free cash flow. Furthermore, businesses are sold in some cases in an effort to reduce interest-bearing debt, as discussed earlier. For this reason, it is thought that the more debts and heavier the burden to a parent company, the more likely companies are avoid investing in unprofitable businesses and businesses lacking synergy with their core businesses while engaging in business restructuring.

Assuming that the debt dependence variable is *LEV*, the dependence on interest-bearing debts, *DA*, as calculated by the sum of short-term debts, long-term debts, corporate bonds, and commercial paper divided by total assets, will be used. The expected sign is positive.

3.2 Corporate governance hypothesis

H3: The higher the ratio of long-term shareholders, the less likely the company is to implement a DMBO.

(The higher the percentage of shareholders who work for strong corporate governance, the more likely that DMBOs are to be implemented)

When protected by long term, stable shareholders, management might opt for entrenchment because M&A would impede the potential management discipline and could become negative about business restructuring.

As variables used to infer the possibility of entrenchment, the cross-shareholding ratio, *CROSS* (the number of cross-held shares divided by the total number of shares), and directors' shareholding ratio, *OWN* (the number of shares held by directors divided by the total number of shares), are used. Cross-shareholding is one characteristic of Japanese-style corporate systems, which refers to the practice of mutually holding the shares of friendly companies that support the current management to resist the threat of hostile takeovers. Cross-shareholders are silent investors who are usually not involved in the management of their partner company. It is assumed therefore that the higher the ratio of cross-shareholdings, the less likely the companies execute corporate downsizing. Consequently, the sign condition of this variable is negative.[16]

The sign condition of directors' shareholding ratio, on the other hand, cannot be determined *a priori*. [17] If entrenchment results from a high

[16] Sheard (1994) provides detailed descriptions of the economic functions of cross-shareholdings.

[17] The sample for the empirical analysis consists of all publicly traded companies including numerous emerging companies. Therefore, inserting the directors' shareholding

percentage of shares held by the management, the management would be negative about organizational restructuring that would deny its own conventional management policy. Therefore, it is expected to have a negative effect on the implementation of a DMBO. Because the ownership and management are held by the same party, however, active restructuring for the purpose of improving the corporate value is also conceivable, which might result in a positive effect (Alignment).[18] The empirical results must be obtained before determining which effect is greater (Morck et al., 1988; McConnell and Servaes, 1990; McConnell and Servaes, 1995).

Conversely, companies with a high percentage of shareholders who work for strong corporate governance are more likely to execute business restructuring actively. In particular, institutional investors are known as shareholders who carry out strong governance. In Japan, too, the number of times that voting rights are exercised at general meetings of stockholders has been rapidly increasing in recent years, implying that institutional investors are becoming more involved in the management of the companies in which they invest (Ahmadjian, 2007, p.135). Companies in which the shareholders pursuing such solid governance hold numerous shares are probably more likely to need business reorganization in an attempt to improve their corporate value. This hypothesis is verified using the institutional investors' shareholding ratio, *INST* (the number of shares held by institutional investors divided by the total number of shares).[19] The sign condition is positive.

The three variables introduced above can be designated cumulatively as the corporate governance variable, *GOV*.

3.3 Business strategy hypothesis

H4: The more diversified a company is, the more likely the company is to implement a DMBO.

As stated above, companies have been selecting and emphasizing their core businesses since the 1990s. This is the result of emphasizing the "diversification discount" described by Lang and Stulz (1994) and Berger and Ofec (1995), i.e., the disadvantage of lower profitability caused by the inability to concentrate management resources on core businesses exceeds the advantage of spreading business risks through diversification. More diversified companies should therefore have more incentives for structural reforms of their businesses.

The diversification variable, *DIVERSE*, will be prepared in two different forms. One is the Herfindahl index, as calculated from segment information that is modified by subtracting 1 from the index so that the higher the numerical value, the more diversified a company is (*REVHINDEX*). The expected sign is positive. The other form of diversification variable is the indicator described by Rumelt (1974), which categorizes companies' diversification strategies into four types, "single business strategy," "dominant business strategy," "related-field diversification strategy," and "unrelated-field diversification strategy." This study uses sales data by category of the Japan Standard Industrial Classification[20] based on the segment information from Nikkei NEEDS using Markides (1995) as a reference. The cases in which the percentage of sales by industrial category based on four-digit classification in the total sales exceeds 95% are considered single businesses (*SINGLE*), and 70% and above but less than 95% are dominant businesses (*DOMINANT)*. Among the companies that are less than 70%, those whose percentage of sales by industrial category based on two-digit classification in total sales is 70% or greater are considered related diversification companies (*RELATED*); those less than 70% are unrelated diversification companies (*UNRELATED*). The estimation uses single business companies as the standard and inputs the dummy variables of the other three categories. The expected signs are all positive.

H5: Companies that are reorganizing their corporate groups are more likely to implement a DMBO.

As explained above, since the shift to the disclosure system that prioritizes consolidated accounts, Japanese companies have accelerated the divestment of non-core and unprofitable businesses; DMBOs are thought to be conducted as part of such business reorganization to complement other methods. Companies that are reducing the number of subsidiary groups, for instance, are likely to implement a DMBO simultaneously. This study uses the differences in the number of subsidiaries (*DSUB*) as the company group variable (*GROUP*). This represents the changes from the previous period to the current period. The expected sign is negative.

ratio in the estimation models to check the effect is important.

[18] In fact, while Ofek (1993) states that companies with a larger shareholding ratio of the internal management are less likely to restructure their businesses even when their business performance declines, Lichtenberg and Pushner (1994) confirms a positive causal relationship between the internal management's shareholding and business performance.

[19] Calculated as: foreigners' shareholding ratio + trust account shareholding ratio + life insurance special account shareholding ratio.

[20] While the industries in the Japan Standard Industrial Classification can be divided into up to three types, this study used the first data set.

4. Data and model

4.1 Data set

The companies in the sample are all companies listed on the stock exchanges excluding financial service companies. The financial data, stock prices, and segment information have been obtained from Nikkei NEEDS, the shareholder composition is from Nikkei NEEDS-Cges, and the number and sizes of DMBOs implemented are based on the MARR data. The number and sizes of DMBOs, which are explained variables, are based on the data of fiscal years 2005–2007[21]; the explanatory variables derive from the previous fiscal years: 2004–2006. The explanatory variables are generally consolidated data. However, unconsolidated data are used to complement the data when consolidated data are not available. Descriptive statistics are presented in Table 4.

--- Table 4 around here ---

4.2 Estimation model

The model to be estimated is drawn from the hypotheses examined in the preceding sections.

$$DMBO_{it} = \alpha + \beta_1 PERF_{it-1} + \beta_2 LEV_{it-1} + \beta_3 GOV_{it-1} + \beta_4 DIVERSE_{it-1} + \beta_5 GROUP_{it} + \beta_6 SIZE_{it-1} + \sum IND_{it} + YD_t + u_{it} \quad (1)$$

The explained variables (*DMBO*) include the two below. One is the number of DMBOs that have been implemented (*DMNUM*). These are count data for which either a Poisson regression model or negative binomial regression model is used. This study uses the latter because the variance is greater than the average of the explained variables.[22] The other explained variable is the size of DMBOs (selling price divided by the market capitalization of the previous period) that have been implemented (*DMSIZE*). Cases whose selling prices are unobtainable use the average percentage of selling price to market capitalization of companies whose prices are known.[23] The distribution is cut off at zero. Therefore, the Tobit model is used for estimation.

The logarithm of the consolidated number of employees (*SIZE*) is input to control the differences in the behaviour of restructuring based on company sizes, an industry dummy (*IND*) is input to control the industry factors, and a year dummy (*YD*) is input to control the year factors. The industry dummy uses the dummy variables of five industries (general machinery manufacturing, electric machinery manufacturing, wholesale, retail, and other service businesses), in which ten or more cases of MBOs have been observed, from industry categories based on Nikkei industry codes.

5. Results of estimation

5.1 Results of estimating the number of DMBOs

Table 5 presents the results of the analysis of the number of DMBOs implemented.[24] Column (1) uses the Herfindahl diversification index as the diversification variable and (2) uses the indicator of Rumelt.

First, for the performance variable, the coefficient of *ROA* is significantly negative and the coefficient of *PBR* is not significant. This result is maintained in all models. The major difference between these two is the issue of which of business profit and stock prices to emphasize as business performance. The estimation results reveal that business performance in terms of profit, rather than stock prices, affects the implementation of DMBOs. Hypothesis 1 is therefore partially supported. For the dependence on interest-bearing debts, which is a debt-to-equity ratio variable, the coefficients in all models are significantly positive and Hypothesis 2 is also supported.

Subsequently, the governance variable is examined. In each model, the coefficient of *CROSS* is significantly negative, and *INST* is significantly positive. The higher the ratio of cross-shareholdings, the less effectively the management discipline from the stock market works and companies become negative about corporate restructuring. On the other hand, the higher the institutional investors' shareholding ratio, the more likely the companies intend to make their subsidiaries independent through MBOs. Therefore, Hypothesis 3 is supported. In fact, *OWN* works positively. Therefore, the alignment appears to have worked more strongly than entrenchment for the directors' shareholding ratio.

Regarding the business strategy variable, the coefficient of *REVHINDEX* is significantly positive.

[21] Matched to the timing when NEEDS-Cges data would become available.

[22] There is a method in which Heckman two-step estimator is used to estimate whether MBOs are implemented as the first stage and the number of cases implemented as the second stage. This study, however, has used the negative binomial regression model, considering that the data are count data.

[23] When data showing monetary values were not available, estimation using 1) zero yen as the selling price and 2) 0.1% of total equity (Haynes et al., 2003) was performed in addition to the estimation presented; mostly the same results were maintained.

[24] For the estimation, outliers were eliminated by removing the subjects that exceeded the average value of each variable by four standard deviations.

In other words, the more diversified a company is, the more likely the company is to sell non-core businesses through MBOs. When Rumelt's classification was used as a diversification variable, *RELATED* and *UNRELATED* became positive and significant. That is to say, related diversification companies and unrelated diversification companies are more likely to implement DMBOs than single business companies and dominant business companies. Therefore, Hypothesis 4 is supported.

For the corporate group variable, the coefficient of *DSUB* is negatively significant. This implies that companies that are reducing the number of their subsidiaries have a higher probability of implementing DMBOs. Hypothesis 5—stating that DMBOs are conducted as part of business reorganization to complement other methods—is therefore supported.

Finally, for the control variable, *SIZE* is not significant. Therefore, company size does not affect the implementation of DMBOs. Among the industry dummies, wholesale, retail, and other service businesses were positive and significant, suggesting that DMBOs are actively implemented in non-manufacturing industries.

--- Table 5 around here ---

5.2 Results of estimating the sizes of DMBOs

Table 6 exhibits the results of the analysis of the sizes of DMBOs implemented. As in Table 5, Model (1) uses the Herfindahl diversification index as the diversification variable and Model (2) uses the indicator of Rumelt.

Although the relation is not as clear, generally the same tendency shown in the estimation of the number of DMBOs implemented is indicated. In other words, larger DMBOs are generally pursued by companies with lower ROA, higher debt dependence, higher directors' and institutional investors' shareholding ratios, with greater diversification. In contrast, DMBOs are small, if they are implemented at all, in the companies whose cross-shareholding ratio is high. Differences in the number of subsidiaries did not produce significant results in this estimation.

--- Table 6 around here ---

6. Conclusion

This study has analyzed the cases of MBOs, which have been rapidly increasing in Japan since around 2000. First, an overview of MBO practices in Japan was provided, with a description of the emergence of the divestment-type of MBOs as a new tool for corporate restructuring. The study subsequently examined parent companies that would become the sellers of business units and attempted an empirical analysis using panel data under three hypotheses—1) the performance hypothesis, 2) the corporate governance hypothesis, and 3) the business strategy hypothesis—as determinants of divestment MBOs in Japanese companies. The results are as follows:

(1) Parent companies whose ROA is low, i.e. for which financial performance is declining, tend to implement MBOs of their affiliated business units. Meanwhile, the stock price performance in terms of PBR does not affect the implementation of MBOs. Consequently, the trigger of MBO implementation is financial performance and not stock price performance. In addition, the heavier the burden of debts, the more likely the companies engage themselves in divestment MBOs. This can be understood as that the management discipline from debts urges the companies to restructure their businesses.

(2) Although companies whose institutional investors' and directors' shareholding ratios are high tend to make their subsidiaries independent using MBOs, those companies that have the established practice of cross-shareholdings tend to avoid implementing divestment MBOs. As far as the study's analysis suggests, although directors' shareholdings stimulates management incentives and works towards alignment, cross-shareholding becomes a factor that encourages management entrenchment.

(3) The more a company is diversified and engaged in unrelated diversification, the more likely the company is to tend to sell their subsidiaries and business units using MBOs, which is thought to reflect the use of MBOs as a new tool for the practice of "selection and concentration," in which non-core businesses are sold. Furthermore, those parent companies that are reducing the number of their subsidiaries are simultaneously working to sell their businesses through MBOs. Therefore, reorganization and concentration of subsidiaries and divestment MBOs complement each other, implying that MBOs of subsidiaries are conducted as part of corporate group reorganization.

The results presented thus far closely resemble the results reported by Haynes et al. (1999) and Haynes et al. (2003): parent companies in Japan share the same motives held by British companies for making their subsidiaries independent using MBOs.

Finally, the following presents some issues left for additional study. First, questions such as whether parent companies that have sold their business units have been able to improve their business performance after their MBOs and how they are assessed by the market require an after-the-fact analysis. Secondly, the analysis of the relevance between MBOs and

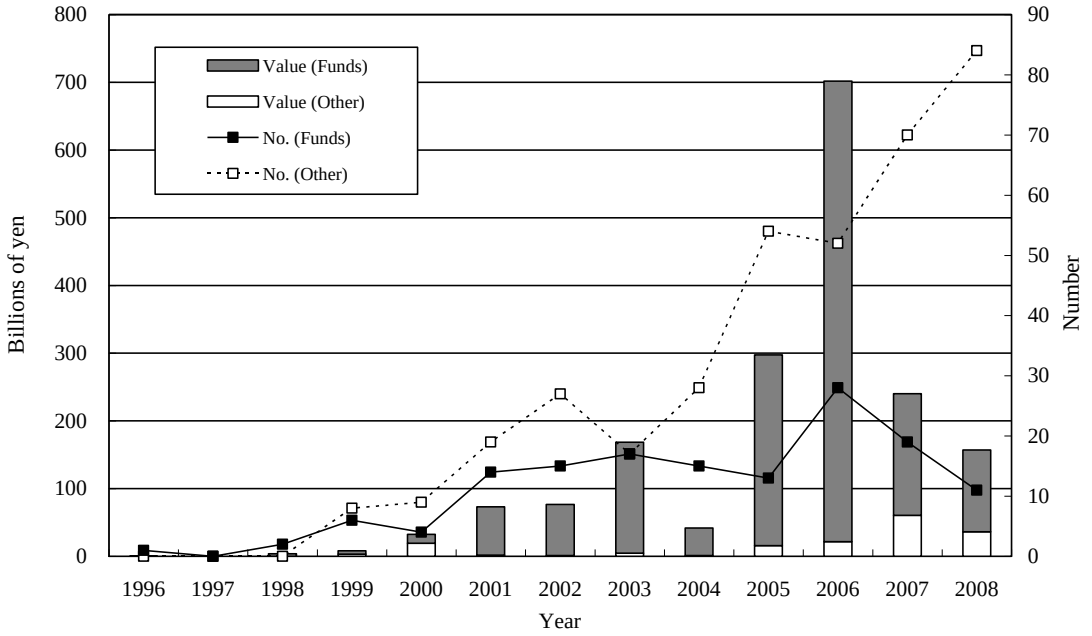
divestment through other means such as division of a company, sale of a company or business, and withdrawal from the market is also important. Finally, the characteristics and differences among those companies and business units that have been separated from their former parent companies through MBOs, those that remain with their parent companies, and others that have been separated through means other than MBOs must be examined.

References

1. Aghion, P. and P. Bolton (1992), "An Incomplete Contracts Approach to Financial Contracting," *Review of Economic Studies*, Vol. 59, pp.473-494.
2. Ahmadjian, C. (2007), "Foreign Investors and Corporate Governance in Japan," in M. Aoki, G. Jackson and H. Miyajima (eds.), *Corporate Governance in Japan: Institutional Change and Organizational Diversity*, Oxford University Press, Oxford, pp.125-150.
3. Berger, P. G. and E. Ofek (1995), "Diversification's Effect on Firm Value," *Journal of Financial Economics*, Vol. 37, pp.39-65.
4. CMBOR (1991), *Management Buy-Outs 1991/92*, Economist Intelligence Unit, London.
5. Fukui, Y. and T. Ushijima (2007), "Corporate Diversification, Performance, and Restructuring in the Largest Japanese Manufactures," *Journal of the Japanese and International Economies*, Vol.21, pp.303-323.
6. Hart, O. and J. Moore (1998), "Default and Renegotiation: A Dynamic Model of Debt," *Quarterly Journal of Economics*, Vol.113, pp.1-41.
7. Haynes, M., S. Thompson and M. Wright (1999), "Sources of Venture Capital Deals: MBOs, IBOs and Corporate Refocusing," M. Wright and K. Robbie (eds.), *Management Buy-outs and Venture Capital: Into the Next Millennium*, Edward Elgar, Cheltenham, pp.219-237.
8. Haynes, M., S. Thompson and M. Wright (2003), "The Determinants of Corporate Divestment: Evidence from a Panel of UK Firms," *Journal of Economic Behavior & Organization*, Vol.52, pp.147-166.
9. Hite, G. and M. Vetsuypens (1989), "Management Buyouts Divisions and Shareholder Wealth," *Journal of Finance*, Vol.44, pp.953-970.
10. Jackson, G. and H. Miyajima (2007), "Introduction: The Diversity and Change of Corporate Governance in Japan," in M. Aoki, G. Jackson and H. Miyajima (eds.), *Corporate Governance in Japan: Institutional Change and Organizational Diversity*, Oxford University Press, Oxford, pp.1-47.
11. Jensen, M.C. (1986), "Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers," *American Economic Review*, Vol.76, pp.323-329.
12. John, K., L. Lang and J. Netter (1992), "The Voluntary Restructuring of Large Firms in Response to Performance Decline," *Journal of Finance*, Vol.47, pp.891-917.
13. Kang, J.K. and A. Shivdasani (1997), "Corporate Restructuring during Performance Declines in Japan," *Journal of Financial Economics*, Vol.46, pp.29-65.
14. Lang, L. and R. Stulz (1994), "Tobin's Q, Corporate Diversification, and Firm Performance," *Journal of Political Economy*, Vol.102, pp.1248-1280.
15. Lichtenberg, F.R. and G. M. Pushner (1994), "Ownership Structure and Corporate Performance in Japan," *Japan and the World Economy*, Vol.6, pp.239-261.
16. Markides, C. C. (1995), *Diversification, Refocusing, and Economic Performance*, MIT Press, Cambridge, MA.
17. Milgrom, M. and J. Roberts (1992), *Economics, Organization and Management*, Prentice-Hall, Englewood Cliffs.
18. Morck, R., A. Shleifer and R. W. Vishny (1988), "Management Ownership and Market Valuation: An Empirical Analysis," *Journal of Financial Economics*, Vol.20, pp.293-315.
19. McConnell, J. J. and H. Servaes (1990), "Additional Evidence on Equity Ownership and Corporate Value," *Journal of Financial Economics* Vol.27, pp. 595–612.
20. McConnell, J. J. and H. Servaes (1995), "Equity Ownership and the Two Faces of Debt," *Journal of Financial Economics*, Vol.39, pp.131-157.
21. Ofek, E. (1993), "Capital Structure and Firm Response to Poor Performance," *Journal of Financial Economic*, Vol.34, pp.3-30.
22. Ozeki, J. and K. Komoto (eds.) (2007), *New Guidebook for M&A Strategy Formulation*. Chuokeizai-Sha, Tokyo (in Japanese).
23. Rumelt, R. (1974), *Strategy, Structure, and Economic Performance*, Harvard University Press, Boston, MA.
24. Saadouni, B., R. J. Briston, C. A. Mallin and K. Robbie (1996), "Security Price Reaction to Divestments by Healthy and Financially Distressed Firms: the Case of MBOs," *Applied Financial Economics*, Vol.6, pp.85-90.
25. Sheard, P. (1994), "Interlocking Shareholdings and Corporate Governance in Japan," in M. Aoki and R. Dore (eds), *The Japanese Firm: The Sources of Competitive Strength*, Oxford University Press, Oxford, pp.310-349.
26. Sugiura, K. (2005), "The Investment Principle of Japanese Buy-out Funds," *Bulletin of the Graduate School, Toyo University: Graduate School of Law, Business Administration and Economics*, Vol. 42, pp.215-238 (in Japanese).

27. Wright, M., M. Kitamura and R. Hoskisson (2003), "Management Buyouts and Restructuring Japanese Corporations," *Long Range Planning*, Vol.36, pp.355-373.
28. Wright, M., A. Burrows, R. Ball, L. Scholes, M. Burdett and K. Tune (2006), *Management Buy-Outs 1986-2006: Past Achievements, Future Challenges*, CMBOR, at http://www.nottingham.ac.uk/
29. business/cmbor/cmbor20.pdf. Cited 26 Nov. 2009.
30. Wright, M., A. Burrows, R. Bail, L. Scholes, M. Meuleman and K. Amess (2007), *The Implications of Alternative Investment Vehicles for Corporate Governance: A Survey of Empirical Research*, OECD, at http://www.nottingham.ac.uk/business/cmbor/oecd.pdf. Cited 26 Nov. 2009.
31. Wright, M. and H. Bruining (2008), "Private Equity and Management Buy-outs: International Trends, Evidence and Policy Implications," in M. Wright and H. Bruining (eds.), *Private Equity and Management Buy-outs*, Edward Elgar, Cheltenham, pp.3-78.

Figure 1. Number and value of MBOs in Japan



Notes: "Funds" in the graph refers to values and numbers of MBOs joined by buy-out funds. "Other" refers to values and numbers of MBOs without the involvement of buy-out funds.
Source: Prepared by the author based on *Marr* by RECOF.

Table 1. Sources of MBOs

Panel A: Value (Millions of yen)

Type	Value	(%)	Mean	Max
Divestment	617,268	37.5	3,041	83,084
(Subsidiaries sold)	(523,179)	(31.8)	(2,768)	(83,084)
(Business unit sold)	(94,089)	(5.7)	(6,721)	(50,000)
(Local divestment)	(566,358)	(34.4)	(2,934)	(83,084)
(Foreign divestment)	(50,910)	(3.1)	(5,091)	(16,000)
Family-private	82,165	5.0	8,217	61,351
Public-to-private	850,323	51.7	29,321	256,505
Receivership	4,035	0.2	576	3,500
Unknown / Other	90,417	5.5	9,042	50,000
Total	1,644,208	100.0	6,348	256,505

Panel B: Number

Type	No.	(%)
Divestment	347	80.7
(Subsidiaries sold)	(319)	(74.2)
(Business unit sold)	(28)	(6.5)
(Local divestment)	(325)	(75.6)
(Foreign divestment)	(22)	(5.1)
Family-private	13	3.0
Public-to-private	29	6.7
Receivership	25	5.8
Unknown / Other	16	3.7
Total	430	100.0

Notes:

1 MBOs during fiscal years 1996–2007.

2 For classification, the types determined as the most appropriate were identified from RECOF data, newspaper articles, and other sources.

3 "Subsidiaries" in the table include sub-subsidiaries (25 cases) which are apparently controlled in effect by subsidiaries and parent companies.

4 The value per case is calculated using cases whose value is known in the sample. The breakdown is the following: "divestment type" = 203 cases (subsidiaries sold =189 cases, business units sold =14, Japanese subsidiaries sold =193, and overseas subsidiaries sold =10), "family-private type" =10, "public-to-private type" =29, "receivership type" = 7, and "unknown/other" =10.

Sources: Marr M&A Data (CD-ROM edition) by RECOF, *M&A Data Book of Japanese Companies 1985-2007* by RECOF, and Nikkei newspapers.

Table 2. Divestment MBOs by stock exchange

	Parents		Subsidiaries	
	No.	(%)	No.	(%)
Tokyo stock exchange 1st section	120	37.6	2	0.6
Tokyo stock exchange 2nd section	20	6.3	2	0.6
Osaka and Nagoya stock exchanges	13	4.1	0	0.0
JASDAQ	60	18.8	1	0.3
Hercules	17	5.3	1	0.3
Mothers	27	8.5	0	0.0
Other stock exchanges	15	4.7	2	0.6
Overseas subsidiaries	20	6.3	38	11.9
Unlisted	27	8.5	273	85.6
Total	319	100.0	319	100.0

Notes:

1 Divestment MBOs during fiscal years 1996–2007.

2 "Subsidiaries" in the table include sub-subsidiaries (25 cases) which are apparently controlled in effect by subsidiaries and parent companies.

3 Unlisted companies include over-the-counter companies.

Source: Prepared by the author based on *Marr M&A Data* (CD-ROM edition) by RECOF.

Table 3. Major divestment MBOs

Case	Date	Subsidiary / Business unit	Industry	Market of listed	Value (Millions of yen)	Buy-out funds	Seller	Industry	Market of listed
(1)	10/31/2006	Toshiba Ceramics	Ceramic Industry	TSE1	83,084	Unison Capital, Carlyle Group	Toshiba	Electric equipment	TSE1
(2)	11/23/2006	Livedoor Financial Holdings	Other financial services	UL	55,100	Advantage Partners	Livedoor	Soft and information	UL
(3)	11/11/2003	Toshiba Tungaloy	Machinery	TSE1	35,748	Nomura Principal Finance	Toshiba	Electric equipment	TSE1
(4)	10/06/2004	Showa Yakuhin Kako	Medical drag	UL	25,229	Jafco	Mercian, etc.	Food	TSE1
(5)	11/26/2003	Kinki Nippon Tourist (membership travel services)	Service	TSE1	24,840	Jafco, Vision Capital Corporation, etc.	Kinki Nippon Tourist	Service	TSE1
(6)	9/16/2000	Yuasa Inc. (industrial storage battery division)	Electric equipment	OS	18,100	—	Yuasa	Electric equipment	TSE1
(7)	3/09/2001	Nissho Iwai Alconix	Other wholesales	UL	17,000	Fuji Capital Management	Nissho Iwai	Wholesale	TSE1
(8)	4/12/2002	Tower Records	Other retails	UL	16,000	Nikko Principal Investments	MTS	Other retails	OS
(9)	1/29/2002	Maruko	Real estate	UL	15,100	Schroder Ventures	Daiei	Retail	TSE1
(10)	1/13/2001	Vantec	Transportation and storage	UL	15,000	3i	Nissan Motor	Transport equipment	TSE1
(11)	2/15/2006	Minit Japan	Service	UL	14,500	CVC Asia Pacific	Minit Europe	Service	OS
(12)	2/01/2002	Kokunai Shinpan	Other financial services	UL	11,194	Advantage Partners	Nippon Shinpan	Other financial services	TSE1
(13)	11/23/2001	Kiriu	Transport equipment	TSE2	7,900	Unison Capital	Nissan Motor	Transport equipment	TSE1
(14)	7/27/2002	Rhythm	Transport equipment	UL	5,000	J.P. Morgan Partners	Nissan Motor	Transport equipment	TSE1
(15)	1/08/2002	Asahi Security	Service	UL	3,558	Carlyle Group	Daiei	Retail	TSE1
(16)	10/26/2001	Altia	Other wholesales	UL	1,000	Fuji Capital Management	Nissan Motor	Transport equipment	TSE1
(17)	2/15/2002	Las Corporation	Service	UL	2,100	Vision Capital Corporation	Daiei	Retail	TSE1
(18)	10/10/2001	Iid	Service	UL	100	NIF Ventures, Fuji Capital Management	Nissan Motor	Transport equipment	TSE1
(19)	4/14/2001	Zero	Transportation and storage	UL	N/A	AIG Japan, Tokio Marine Capital	Nissan Motor	Transport equipment	TSE1
(20)	7/29/2006	Orange Market	Other retails	UL	N/A	—	Daiei	Retail	TSE1

Notes:

1 Divestment MBOs during fiscal years 1996–2007.

2 In addition to the cases in which the disclosed amount exceeds 10 billion yen, cases related to Nissan Motor and Daiei, with a particularly high frequency of using divestment MBOs are listed.

3 "TSE1" refers to the First Section of the Tokyo Stock Exchange, "TSE2" refers to the Second Section of the Tokyo Stock Exchange, "OS" refers to overseas subsidiaries, and "UL" refers to companies that are not listed on stock exchanges.

Sources: Prepared by the author based on *Marr M&A Data* (CD-ROM edition) by RECOF, *M&A Data Book of Japanese Companies 1985–2007* by RECOF, and Nikkei newspapers.

Table 4. Descriptive statistics

Variable	Mean	Std. Dev.	Min	Max
DMNUM	0.013	0.122	0.000	3.000
DMSIZE				
Selling price (a)/Market capitalization	0.000140	0.004	0.000	0.254
Selling price (b)/Market capitalization	0.000386	0.005	0.000	0.254
Selling price (c)/Market capitalization	0.000145	0.004	0.000	0.254
PERF				
ROA	0.055	0.052	-0.192	0.302
PBR	0.776	0.739	0.009	6.276
LEV				
LEV	0.176	0.153	0.000	0.789
GOV				
CROSS	0.078	0.082	0.000	0.571
OWN	0.083	0.127	0.000	0.939
INST	0.161	0.156	0.000	0.835
DIVERSE				
REVHINDEX	0.221	0.259	0.000	0.889
SINGLE	0.536		0.000	1.000
DOMINANT	0.226		0.000	1.000
RELATED	0.062		0.000	1.000
UNRELATED	0.176		0.000	1.000
GROUP				
DSUB	0.515	2.998	-25.000	27.000
Control Variables				
SIZE	6.915	1.482	2.079	12.766
Machinery	0.074		0.000	1.000
Electrical machinery, equipment and supplies	0.097		0.000	1.000
Wholesale	0.114		0.000	1.000
Retail	0.063		0.000	1.000
Other Services	0.153		0.000	1.000
Sample size	7999			

Note : When selling prices are not available, they are assigned (a) zero yen, (b) the average percentage of the seller's market capitalization (the average percentage is computed using data of companies whose selling prices are available), or (c) 0.1 percent.

Table 5. Determinants of the number of divestment MBOs
（Negative binomial model）

	(1) ***DMNUM***	(2) ***DMNUM***
PERF		
ROA	-5.392***	-5.435***
	(-3.072)	(-3.112)
PBR	0.0746	0.0943
	(0.546)	(0.691)
LEV		
LEV	1.224*	1.343**
	(1.855)	(2.035)
GOV		
CROSS	-4.974**	-4.931**
	(-2.559)	(-2.527)
OWN	2.118***	2.061***
	(2.894)	(2.812)
INST	1.906**	2.024***
	(2.451)	(2.607)
DIVERSE		
REVHINDEX	1.581***	
	(3.878)	
Indicator of Rumelt（Reference group=SINGLE)		
DOMINANT		0.218
		(0.743)
RELATED		0.816**
		(1.994)
UNRELATED		0.864***
		(3.215)
GROUP		
DSUB	-0.0683***	-0.0702***
	(-2.662)	(-2.672)
Control Variables		
SIZE	-0.0752	-0.0545
	(-0.866)	(-0.630)
Industry dummies	Yes	Yes
Year dummies	Yes	Yes
Constant	-1.840*	-1.852*
	(-1.751)	(-1.743)
ln(r)	3.051***	3.039***
	(4.598)	(4.742)
ln(s)	0.205	0.123
	(0.197)	(0.122)
Number of observations	7999	7999
Number of firms	3014	3014
Log likelihood	-507.2	-508.9
Log likelihood test（Pooled vs. RE）	1.529	1.692

Notes: z-statistics appear in parentheses. The asterisks ***, **, and * respectively indicate the explanatory variables are significant at the 1, 5, and 10 percent levels.

Table 6. Determinants of the sizes of divestment MBOs
（Tobit model）

	(1) ***DMSIZE***	(2) ***DMSIZE***
PERF		
ROA	-0.269***	-0.269***
	(-3.304)	(-3.344)
PBR	0.00638	0.00691
	(1.338)	(1.446)
LEV		
LEV	0.0503*	0.0527*
	(1.774)	(1.870)
GOV		
CROSS	-0.144*	-0.146*
	(-1.881)	(-1.905)
OWN	0.0873**	0.0865**
	(2.372)	(2.353)
INST	0.0870**	0.0922***
	(2.502)	(2.659)
DIVERSE		
REVHINDEX	0.0658***	
	(3.365)	
Indicator of Rumelt（Reference group=SINGLE)		
DOMINANT		0.00925
		(0.742)
RELATED		0.0323*
		(1.940)
UNRELATED		0.0424***
		(3.297)
GROUP		
DSUB	-0.00176	-0.00179
	(-1.157)	(-1.165)
Control Variables		
SIZE	-0.000980	-0.000296
	(-0.237)	(-0.0708)
Industry dummies	Yes	Yes
Year dummies	Yes	Yes
Constant	-0.263***	-0.266***
	(-5.745)	(-5.744)
sigma	0.103***	0.103***
	(8.680)	(8.681)
Number of observations	7999	7999
Log likelihood	-233.7	-233.6
Pseudo R2	0.1441	0.1446

Notes: z-statistics appear in parentheses. The asterisks ***, **, and * respectively indicate that the explanatory variables are significant at the 1, 5, and 10 percent levels.