Motivations for Share Repurchase Programs and the Effect of Share Prices on Managerial Decisions to End Share Repurchase Programs in Thailand

Naratip Tabtieng

National Institute of Development Administration NIDA Business School 118 Seri Thai Rd., Bangkok, Thailand

Abstract

This study examined the motivations that influenced managerial decisions to repurchase shares of listed companies in Thailand from July 2001 to December 2009. A survey of 64 companies found that the most often cited reasons were that the firms' share prices were undervalued, priced below their fundamental basis, and the desire to improve earnings per share. This research also studies the effects of managerial decisions to end share repurchase programs at 27 companies. The results show that the share prices of 12 companies increased after the end of share repurchase programs. However, there were only 4 companies that decided to resell their treasury shares at a gain; the other 8 companies decided to end their share repurchase programs by decreasing their share capital. Conceptually, those 8 companies should have ended their programs by reselling at a gain. However this study found that there were other reasons that were more important than the effect of gains on financial statements, such as the desire to maintain the stock price at a present high level to avoid a takeover from other investors. When the share prices of the 15 other companies decreased after the end of share repurchase programs, there were 4 companies that decided to resell their treasury shares at a gain, which seems an appropriate decision since after that period their respective share prices went down. However, the other 11 companies decided to end their share repurchase programs by either reselling treasury shares at a loss (3 companies) or decreasing their share capital (8 companies), considering mainly the effects on financial statements as of the dates of decreasing their share capital.

Keywords: share repurchases; motivations; SET; MAI.

1. Introduction

Listed companies on the Stock Exchange of Thailand (SET) and the Market for Alternative Investment (MAI) were first allowed to repurchase their own shares (referred to as treasury stock, share repurchase, and share buyback) when the second revision of the Public Limited Company Act was imposed on July 4, 2001. In comparison, share repurchases were first regulated in the U.S. in 1968, UK in 1981, Australia in 1991, and France and Singapore in 1998. This study has two main objectives. The first is to examine the motivations that influenced managerial decisions to repurchase shares of 64 listed companies in the SET and MAI from July 4, 2001 until Dec. 31, 2009. The second is to investigate the effects of share prices on managerial decisions to end the share repurchase programs of 27 companies.

Under Thailand law, listed companies may only justify repurchasing their own shares for two purposes: financial management and shareholder conflict mitigation. The financial management purpose has three conditions: (1) retained earnings are more than the amount of treasury shares until the end of the share repurchase period; (2) excess liquidity is required to prevent the ability to pay debts within 6 months; and (3) treasury shares have no impact on maintaining the free float rate of at least 15% in Thailand. The repurchasing can also be a tool to mitigate conflicts between shareholders who disagree with management policies, e.g. on dividend payment.

Tabtieng (2010, in Thai) found that 64 companies or 12.12% of the total listed companies in Thailand that repurchased shares from July 4, 2001 to December 31, 2009, cited the first purpose of financial management as a motivation for their share repurchase programs. Therefore, this research aimed to survey the motivations of these companies from their managements' perspectives to repurchase shares.

2. Literature Review and Hypotheses

Previous studies have examined five hypotheses that explained the managerial reasons and motivations of companies for repurchasing their own shares:

Information Signaling Hypothesis: The announcement of share repurchase programs will affect the demand and supply of shares in the stock market because share prices vary according to information asymmetries. If investors believe that the share repurchase program conveys a positive signal by a company, then its share price will increase. Therefore, executives who have inside information can decide to repurchase shares as a management tool to signal management's confidence in the company's future prospects (Miller and Rock (1985), Wansley et al. (1989), Ikenberry, Lakonishok and Vermalen (1994)).

Investment Hypothesis: When a company has excess cash, executives may use the excess cash in an inappropriate investment that will not create a reasonable return. A share repurchase program is a management tool that will reduce the risk of mismatching the utilization of excess cash. Moreover, if its share prices increase after the share repurchase program, shareholders will receive additional returns (Ikenberry and Vermalen (1996), Grullon (2000), Lie (2000)).

Leverage Hypothesis: A company that has an additional debt capacity wants to establish an optimal capital structure. Alternatives to increasing the debt to equity ratio are new debt issues or share repurchase programs. The latter will have the effect of reducing issued and outstanding shares and as a consequence, its debt to equity ratio will increase (Dann (1981), Tsetkos et. al. (1991), Rau and Vermalen (2002)).

Wealth Transfer Hypothesis: Since issued and outstanding share capital will be decreased by share repurchase programs, shareholders will therefore receive additional return from both the increase of share prices and earnings per share. Share price appropriation, which normally occurs after implementing share repurchase programs, can be used as a management tool to avoid a takeover because outside investors will have higher costs to acquire shares. At the same time, share repurchase programs can increase management's ownership of the company (Dann (1981), Bagwell (1992)).

Other Hypothesis: the other motivations were grouped together under "Other Hypothesis", e.g. a substitution for a cash dividend and a response to an economic condition (Baker, Powell and Veit (2003), Dixon, Palmer, Stradling and Woodhead (2008)). The motivations under these five hypotheses can be summarized as presented in Table 1.

In Thailand, there was no prior study in this area except Tabtieng (2010, in Thai). In addition, a study by Tabtieng (2009, in Thai) examines the market reaction, as indicated by share price movements, by investigating abnormal returns and cumulative abnormal returns in the context of share repurchase announcement dates, during share repurchase periods and during the reduction of share capital periods. A comparative study of related financial ratios before and after share repurchase announcement was also examined.

3. Methodology

For Part I of this study, questionnaires were mailed to the executives of the 64 listed companies in the SET and MAI starting from July 4, 2001, until December 31, 2009. From this, 35 companies, or 54.69%, of the total sample size responded. The questionnaires asked the respondents to rate each of fourteen motivations on a 7-point scale (where -3 = strongly disagree, 0 = no opinion and 3 = strongly agree) that would influence managerial decisions to repurchase shares. These 14 motivations are based on 5 hypotheses, namely: information signaling, investment, leverage, wealth transfer, and other, as presented in Table 1. Statistical analysis was done using the Wilcoxon Signed Rank Sum Test to test the significance of each motivation.

Part II of this study involved document research from secondary data:

- Financial statements and share prices from the SET and SEC databases. This study utilized the data of 27 listed companies that had already ended their repurchase programs during July 4, 2001 until December
- Related legal rules and regulations concerning treasury shares from the Public Company Limited Act B.E.2535 and B.E.2544, Office of the Council of State of Thailand, Commerce Ministry regulations.

Besides document research, in-depth interview data were also included in this study. The study does not include property funds from the SET and also excluded treasury shares that were repurchased by the parent company's respective subsidiaries.

4. Results

Part I of this study focused on surveying the motivations that influenced managerial decisions to repurchase shares of 64 listed companies in the SET and MAI from July 4, 2001 until December 31, 2009 as presented in Table 2. This was a total of 12.12% of all companies in the SET and MAI combined, with percentages of the SET 13.05% and the MAI only 3.77%. Whereas, the listed companies in the Standard & Poors 500 & 600 repurchased their own shares with percentages of 77.27% and 57.7%, respectively as presented in Table 3. This major difference may be that repurchasing Treasury shares had just started in Thailand in 2002. In comparison, companies in the S&P 500 & 600 began repurchasing Treasury shares 33 years earlier in 1969.

The questionnaires asked the respondents to rate each motivation that would influence managerial decisions to repurchase shares on a 7-point scale. 35 companies out of a combined total of 64 companies, or 54.69% (35 SET and 0 MAI listed companies), responded as shown in Table 4.

Next, the results presented in Table 5 show that the top three most often cited motivations (having mean values of 2.11, 1.74 and 1.40, respectively), under the Information Signalling Hypothesis, are: (1) share prices were undervalued; (2) company share price had recently been below fundamental basis; and (3) improve the company's earnings per share.

These results are consistent with the results of a study on U.S. companies by Baker, Powell and Veit (2003). However, it is noted that the results in Table 5 are not consistent with the study on U.S. companies done by Reimers and Singleton (2010) as well as a study on UK companies done by Dixon, et al. (2008).

Moreover, in Table 6, the Wealth Transfer hypothesis is composed of three motivations, in rank order: (14) reduction of the administrative cost of small shareholding by removing minority shareholders; (12) removing shareholders' structure; and (11) part of a defensive strategy to avoid a takeover. The motivation of "as a substitute for a cash dividend" with a rank order (13) (under Other hypothesis category), and the previously mentioned three motivations were all not considered as motivations that influenced managerial decisions because the mean values were negative as shown in Table 5. The results are consistent with the studies of Baker, Powell and Veit (2003) and Dixon, Palmer, et al. (2008).

The results from the Wilcoxon Signed Rank Sum Test in Table 6 showed 8 motivations that have median values more than zero at a significance level of 5%. This test rejected some hypotheses: Median $_i \le 0$ where " i " is each motivation that would influence managerial decisions to repurchase shares. The findings indicate that 8 motivations influence managerial decisions to repurchase shares, i.e. significantly different from zero at a significance level of 5%. The first 6 motivations with the P-value = 0.000 were (1) share prices that were undervalued, (2) share prices had recently been below share prices on a fundamental basis, (3) improve the company's earnings per share, (4) signal management's confidence in future earnings and share prices, (5) company lacked sufficient investment opportunities to use available cash, and (6) bring the firm to the attention of the market through press announcements of share repurchase programs. The last two motivations are a response to the economic condition (P-Value = 0.004) and achieve an optimal capital structure (P-Value = 0.012). The statistics in Table 5 and 6 are logically consistent.

A previous study by Tabtieng (2010, in Thai) regarding the effects of repurchase programs on financial statements showed that, in terms of financial statement results, only 8 out of 27 listed companies, or 29.63%, ended their repurchase programs successfully, whereas the other 19 companies, or 70.37%, were unsuccessful, as presented in Table 7. In addition, when compared to the amount those 27 companies spent on their repurchase programs (total of 8,931.19 million baht), the study found that cash flows and shareholders' equity actually decreased 6,643.83 million baht, or 74.39% of the total amount used in repurchases programs. The result confirmed that the programs were not as successful as planned.

As a consequence of this, Part II of this study aimed to further investigate the effects of share prices on managerial decisions to end the repurchase programs of those 27 listed companies. The results as shown in Table 8 revealed that the share prices of 12 out of 27 companies, or 44.44%, increased after these companies ended share repurchase programs. This is opposed to the concept of treasury shares that would have the impact of increasing share prices. However, the share prices of 15 companies, or 55.56%, had decreased after these companies ended share repurchase programs. There are three methods that management can use to end repurchase programs. Conceptually, when share prices increase, managers should decide to end the programs by reselling at a gain, defined as the selling price above the weighted average cost. Therefore, the effect of share prices on share repurchase programs that had an impact on managerial decisions to end their repurchase programs can be summarized into three methods as shown in Table 8.

4.1 Reselling at a gain

If share prices increased during the selling period, then management would be able to resell its treasury shares at a price higher than its weighted average cost. Theoretically, it would result in an increase in both paid-in capital from treasury stock and shareholders' equity. However in practice, there were only 8 out of 27 companies, or 29.63%, that were able to resell at a gain. This was consistent with Part I of this study, which found that the most highly cited motivations were: (1) firm share prices were undervalued; (2) company's share prices had recently been below share prices based on a fundamental basis; and (3) improve the company's earnings per share.

When the average share prices since reselling treasury shares are compared to the average share prices until the end of the share repurchase programs, the results revealed that share prices of only 4 out of 27 companies, or 14.815%, increased and share prices of 4 out of 27 companies, or 14.815%, decreased. The latter implies that the decisions made by the companies were appropriate because after the stocks were sold, the share prices decreased.

4.2 Reselling at a loss

This case occurs when share prices decrease and the company resells its treasury shares at a price below its weighted average cost. This method will cause a decrease in unappropriated retained earnings as well as a decrease in shareholders' equity, respectively.

Tabtieng (2010, in Thai) found that 2 out of 3 companies had to involuntarily end their programs by utilizing this method. This is because they were not able to reserve their retained earnings in accordance with the SEC regulations that were imposed in 2005, requiring every company to reserve an amount of appropriated retained earnings equal to the amount of treasury shares. However, one other company that decided to use this method caused that company to realize a reduction in inappropriate retained earnings and shareholders' equity of only 0.28 million baht. Actually, the shares of 15 companies experienced share price decreases. However, only 3 out of 27 companies, or 11.11%, decided to end their programs by this method.

4.3 Decreasing share capital

This was the most utilized method that 16 out of 27 companies, or 59.26%, used in ending their repurchase programs. Average share prices increased from the date that the company would be able to resell its shares until the end of the program (within three years).

There were 8 out of 27 companies, or 29.63%, for which share prices increased. Conceptually, those companies should have ended their programs by reselling their shares at a gain resulting in inappropriate retained earnings and shareholders' equity to be increased. From in-depth interviews, there were motivations that were found to be more important than the effects of gains on financial statements, for example:

- (1) Company wanted to maintain its stock price at a present high level;
- (2) No need to use the money obtained from reselling their treasury shares;
- (3) Avoid a takeover:
- (4) After a cost/benefit study companies had decided not to resell at a gain because although shareholders' equity would increase by selling at a gain, key financial ratios, such as EPS, ROE would be lowered; or
- (5) If liquidity of the company's stock was quite low, reselling shares would have affected the SEC requirement that the free float percentage be greater than 15%.

There were 8 out of 27 companies, or 29.63%, whose share prices decreased that used this method instead of reselling at a loss. At the date of ending the programs, although issued and outstanding shares decreased, inappropriate retained earnings increased, which resulted in shareholders' equity remaining the same. As stated in a study by Tabtieng (2010, in Thai), when shareholders' equity is compared from the date of starting the share repurchase programs until the end of the programs, shareholders' equity decreased. In this case, it is difficult for investors to realize this effect. From a management perspective, this method is better than reselling at a loss, considering mainly that shareholders' equity would remain the same, whereas the latter would cause a decrease in shareholders' equity.

Moreover, Tabtieng (2009, in Thai) indicated that increases in abnormal stock returns are significantly correlated with repurchase announcements, but not with actual repurchases. The market responds most favorably to share repurchases that are performed by small firms having large proportions of outstanding shares. Besides, the financial ratio that represents market prospects, which is measured by dividends per share, is significantly improved in the post announcement period. Finally, the results showed that for a firm that does not resell its treasury shares within three years, stock price decreases before the reduction of issued and outstanding share capital (Tabtieng, 2009, in Thai).

4.4 Conclusion and implications

The results from Part I (statistical tests) that are presented in Table 5 and 6 are consistent with each other. The most often cited motivations in order are: (1) management believed that share prices were undervalued, (2) company share price had recently been below share price on a fundamental basis, and (3) improve the company's earnings per share. All of these motivations are under the Information Signaling hypothesis.

The last 4 motivations were not considered as influencing share repurchases. From Table 6, the Wealth Transfer hypothesis is composed of three motivations, indicated in rank order:

- (14) Reduction of the administrative cost of small shareholding by removing minority shareholders.
- (12) Removing shareholders' structure.
- (11) Part of a defensive strategy to avoid a takeover.

Motivation (13) "as a substitute for a cash dividend", under the category of Other hypothesis, and the previously mentioned three motivations were all not considered as ones that influenced managerial decisions because the mean values were negative as shown in Table 5. These results are consistent with the studies of Baker, Powell and Veit (2003) and Dixon, Palmer, et al. (2008).

The results from Part II of this study showed the effects of share prices on managerial decisions to end their share repurchase programs. In the case where share prices increased, not all of the companies decided to resell at a gain since there were other reasons that the companies decided were more important than financial statement results. However, in the case where share prices decreased, most of the companies tried to avoid reselling at a loss because utilizing this method would cause a decrease in inappropriate retained earnings, and as a consequence, a decrease in shareholders' equity. Instead, those companies utilized the method of decreasing share capital. Although this would cause shareholders' equity to be decreased, when considered from the start to the end of their respective repurchase programs (3 years) this effect would not be noticed by financial analysts and investors unless they investigated the financial statements in detail from the previous periods.

A more important concern by management was that in the short run, at the date of ending their programs, issued and outstanding shares decreased but inappropriate retained earnings increased, and as a consequence, shareholders' equity remained the same. In terms of financial statement results, an increase in inappropriate retained earnings can benefit a company since it can be used to pay a dividend or be held as a reserve to be used during the time when a company faces financial difficulties. Besides, at the end of the share repurchase program, the method of decreasing share capital will cause shareholders' equity to remain the same, whereas reselling at a loss will decrease shareholders' equity. As a consequence, management tends to prefer this method since it relates to financial ratios (e.g. debt to equity ratio, return on equity) and so will be better than the latter method of reselling at a loss. Therefore, this might be an implication as to why most companies utilize this method.

Notes:

- 1,3 Tabtieng, N. (2010, in Thai). A study on the shares of companies listed on the Stock Exchange of Thailand and the Market for Alternative Investment and the impact on the financial statements. Journal of Business Administration. National Institute of Development Administration, 6, 2010, 22-57.
- 2 Tabtieng, N. (2009, in Thai). The effect of share repurchase on the cumulative abnormal returns of companies listed on the Stock Exchange and the Market for Alternative Investment. Journal of Business Administration. National Institute of Development Administration, 5, 2009, 106-133.

References

- Bagwell, L. S., Shoven, J. B. (1989). Cash distributions to shareholders, *Journal of Economic Perspective*, 3, 129-140.
- Baker, H. K., Powell, G. E., and Veit, E. T. (2003). Why companies use open-market repurchases: A managerial perspective, *The Quarterly Review of Economics and Finance*, 43, 483-504.
- Dann, L. Y. (1981), Common stock repurchases, Journal of Financial Economics, 9, [13]-38.
- Dixon, R., Palmer, G., Stradling, B., and Woodhead, A. (2008), An empirical survey of the motivation for share repurchase in the UK, *Managerial Finance*, 34, 886-905.
- Grullon, G. (2000), The information content of share repurchase programs, Working Paper.
- Ikenberry, D., Lakonishok, J., and Vermaelen, T. (1994), Market underreaction to open market share repurchases, *Journal of Financial Economics*, 39, 181-208.
- Ikenberry, D., and Vermaelen, T. (1996), The option to repurchase stock financial management, 25.
- Miller, M., and Rock, K. (1985), Dividend policy under asymmetric information, *Journal of Finance*, 40, 1031-1051.
- Mitchell, J. D., Grace, V. D. & Clarke, A. W. (2001), Managements' views on share buy-backs: An Australian survey, *Accounting and Finance*, 93-129.
- Rau, R., Vermalen, T. (2002), Regulation, taxes, and share repurchases in United Kingdom, *Journal of Business*, 75, 245-285.
- Reimers, J. L., Singleton, J. C. (2010), Accounting meets strategy: Share repurchase programs, *Strategic Finance*, 47-51.
- Tabtieng, N. (2009), The effect of share repurchase on the cumulative abnormal returns of companies listed on the Stock Exchange of Thailand and the Market for Alternative Investment, *Journal of Business Administration*, National Institute of Development Administration, 5, 106-133.
- Tabtieng, N. (2010), A study on the shares of companies listed on the Stock Exchange of Thailand. The Market for Alternative Investment and the impact on the financial statements, *Journal of Business Administration*, National Institute of Development Administration, 6, 22-57.
- Tsesekos, T. P., Kaufman, D., and, Gitman, L. J. (1991), A survey of stock repurchase motivations and practices of major US corporations, *The Journal of Applied Business Research*, 7, 15-21.
- Wansley, J. W., Lane, W. R., and Sarkar, S. (1989), Management's view on share repurchase and tender offer premium. *Financial Management*, 18, 97-110.

Table 1. Motivations for Share Repurchase Programs Classified by Hypotheses.

| | Motivations for Share Repurchase Programs | Hypotheses |
|------|---|-------------|
| (2) | Management believed that the firm's shares were undervalued. | Information |
| (3) | Company's share price had recently been below other share prices compared to the fundamental basis. | Signaling |
| (7) | Improve the company's earnings per share. | |
| (11) | | |
| (13) | Bring the firm to the attention of the market through press announcements of the stock buy-back. | |
| (4) | Company lacked sufficient investment opportunities to use available cash. | Investment |
| (9) | Return excess cash to shareholders. | |
| (1) | Method of increasing the firm gearing. | Leverage |
| (6) | Achieve an optimal capital structure. | |
| (5) | Remove shareholders' structure. | Wealth |
| (10) | Part of a defensive strategy to avoid a takeover. | Transfer |
| (14) | Reduce the administrative cost of small shareholdings by removing minority shareholders. | |
| (8) | Response to the economic condition. | Other |
| (12) | A substitute for a cash dividend. | |

Table 2. Number of Companies that Repurchased Shares (Classified by Market Listing).

| Category | Companies | % | All Companies in the Market | % of All |
|---|-----------|--------|-----------------------------|-------------|
| 1. Listed Companies in the Stock Exchange of | | | | |
| Thailand (SET) | 62 | 96.88 | 475 | 13.05 |
| 2. Listed Companies in the Market for Alternative | | | | |
| Investment (MAI) | 2 | 3.13 | 53 | 3.77 |
| Total | 64 | 100.00 | 528 | 12.12 |

Table 3. Number of Standard & Poors Companies that Repurchased Shares.

| Category | Companies | All Companies in the Market | % Of All |
|---------------------------------|-----------|-----------------------------|-------------|
| Listed Companies in the S&P 500 | 386 | 500 | 77.2 |
| Listed Companies in the S&P 600 | 346 | 600 | 57.7 |

Table 4. Number of Companies that Repurchased Shares (Classified by Industry Groups).

| SET | Number of Repurchasing Companies | % | Number of Companies that Responded Q/N | % |
|---------------------------|----------------------------------|--------|---|--------|
| 1.Agro & Food Industry | 3 | 4.84 | 2 | 66.67 |
| 2.Consumer Products | 5 | 8.06 | 4 | 80.00 |
| 3.Financials | 9 | 14.52 | 2 | 22.22 |
| 4.Industrials | 7 | 11.29 | 1 | 14.29 |
| 5.Property & Construction | 9 | 14.52 | 6 | 66.67 |
| 6.Resources | 4 | 6.45 | 4 | 100.00 |
| 7.Services | 15 | 24.19 | 9 | 60.00 |
| 8.Technology | 10 | 16.13 | 7 | 70.00 |
| Total | 62 | 100.00 | 35 | 56.45 |
| MAI | Number of Repurchasing Companies | % | Number of Companies that Responded Q/N | % |
| MAI | 2 | 100 | 0 | 0.00 |
| Total | 64 | 100.00 | 35 | 54.69 |

Table 5. Mean Value of Each Motivation Influencing Share Repurchases.

| | | % | | | | | | | | |
|----|---|-------|-------|-------|-------|-------|-------|-------|-------|------|
| ¥ | Motivation | -3 | -2 | -1 | 0 | 1 | 2 | 3 | Mean | S.D |
| 1 | (2) Management believes that the firm's shares were undervalued. | 0.00 | 0.00 | 0.00 | 22.86 | 0.00 | 20.00 | 57.14 | 2.11 | 1.23 |
| 2 | (3) Company's share price had recently been below fundamental basis. | 2.86 | 8.57 | 2.86 | 5.71 | 8.57 | 20.00 | 51.43 | 1.74 | 1.79 |
| 3 | (7) Improve the company's earnings per share. | 0.00 | 8.57 | 2.86 | 8.57 | 20.00 | 40.00 | 20.00 | 1.40 | 1.44 |
| 4 | (11) Signal management's confidence in the future level of earnings and share prices. | 0.00 | 0.00 | 5.71 | 31.43 | 20.00 | 37.14 | 5.71 | 1.06 | 1.08 |
| 5 | (4) Company lacked sufficient investment opportunities to use available cash. | 2.86 | 2.86 | 5.71 | 14.29 | 40.00 | 25.71 | 8.57 | 0.97 | 1.32 |
| 6 | (13) Bring the firm to the attention of the market through press announcements of the stock | 0.00 | 2.86 | 0.00 | 37.14 | 25.71 | 34.29 | 0.00 | 0.89 | 0.99 |
| 7 | (6) Achieve optimal capital structure. | 10.71 | 10.71 | 7.14 | 10.71 | 7.14 | 25.00 | 28.57 | 0.86 | 1.91 |
| 8 | (8) Response to the economic condition. | 2.86 | 5.71 | 0.00 | 31.43 | 25.71 | 31.43 | 2.86 | 0.77 | 1.31 |
| 9 | Method of increasing the firm gearing. | 17.14 | 20.00 | 11.43 | 40.00 | 8.57 | 2.86 | 0.00 | 0.49 | 2.03 |
| 10 | (9) Return excess cash to shareholder. | 5.71 | 20.00 | 11.43 | 5.71 | 28.57 | 20.00 | 8.57 | 0.26 | 1.82 |
| 11 | (10) Part of a defensive strategy to avoid a takeover. | 8.57 | 14.29 | 11.43 | 37.14 | 8.57 | 8.57 | 11.43 | -0.06 | 1.73 |
| 12 | (5) Remove shareholders' structure. | 11.43 | 11.43 | 8.57 | 34.29 | 14.29 | 20.00 | 0.00 | -0.11 | 1.60 |
| 13 | (12) Substitute for a cash dividend. | 8.57 | 14.29 | 31.43 | 22.86 | 8.57 | 8.57 | 5.71 | -0.43 | 1.58 |
| 14 | (14) Reduce the administrative cost of small shareholdings by removing minority shareholders. | 17.14 | 20.00 | 11.43 | 40.00 | 8.57 | 2.86 | 0.00 | -0.89 | 1.39 |

Table 6. Descriptive Statistics and Results of Motivation Hypotheses.

| Rank | Motivation | Hypotheses | Median | Wilcoxon Statistic | P-value |
|------|---|--------------------------|--------|-----------------------|---------|
| 1 | (2) Management believes the firm's shares were undervalued. | Information Signaling | 3 | 378.0 | 0.000* |
| 2 | (3) Company's share price had recently been below share prices on a fundamental basis. | Information Signaling | 2 | 506.0 | 0.000* |
| 3 | (7) Improve the company's earnings per share. | Information Signaling | 2 | 472.5 | 0.000* |
| 4 | (11) Signal management's confidence in the future level of earnings and share prices. | Information Signaling | 1 | 290.0 | 0.000* |
| 5 | (4) Company lacked sufficient investment opportunities to use available cash. | Investment | 1 | 398.0 | 0.000* |
| 6 | (13) Bring the firm to the attention of the market through press announcements of the buy-back. | Information Signaling | 1 | 237.0 | 0.000* |
| 7 | (8) Response to the economic condition. | Other | 1 | 244.5 | 0.004* |
| 8 | (6) Achieve an optimal capital structure. | Leverage | 1 | 385.5 | 0.012* |
| 9 | (1) Method of increasing the firm's gearing. | Leverage | 1 | 272.5 | 0.200 |
| 10 | (9) Return excess cash to shareholders. | Investment | 1 | 318.5 | 0.251 |
| 11 | (10) Part of a defensive strategy to avoid a takeover. | Wealth Transfer | 0 | 122.5 | 0.558 |
| 12 | (5) Remove shareholders' structure. | Wealth Transfer | 0 | 120.5 | 0.708 |
| 13 | (12) Substitute for a cash dividend. | Other | -1 | 128.0 | 0.930 |
| 14 | (14) Reduce the administrative cost of small shareholdings by removing minority shareholders. | Wealth Transfer | -1 | 23.5 | 0.999 |

Table 7. Status of Companies that Ended Repurchase Programs as of December 31, 2009.

| | No. of Compani es | % | No. of Program s | % |
|--|-------------------------|-----------|------------------------|-----------|
| 1 Company can resell repurchased share at a price higher than the repurchased price. Gain is recorded as "paid in capital from treasury stock" | 8 | 29. 63 | 8 | 28. 57 |
| Company can resell repurchased share at a price lower than the repurchased price. Loss is recorded by decreased unappropriated retained earnings. | 3 | 11. 11 | 3 | 10. 72 |
| 3 Company cannot resell repurchased shares within 3 years. Company had to decrease its share capital. | 16 | 59. 26 | 17 | 60. 71 |
| Total | 27 | 10 0 | 28 | 10 |

Table 8. Trend of Share Prices after End of Share Repurchase Programs.

| Trend of share prices | Companie s | Percent | Reselling at a gain* | | Reselling at a loss** | | Decreasing share capital | | |
|------------------------------|---------------|---------|----------------------|--------|-----------------------|----------|--------------------------|--------|--|
| | | | Compani % | | Companies | % | Companie | % | |
| | | | es | | | | S | | |
| Share prices increased | 12 | 44.44 | 4 | 14.815 | 0 | 0 | 8 | 29.63 | |
| Share prices decreased | 15 | 55.56 | 4 | 14.815 | 3 | 11.11 | 8 | 29.63 | |
| Total | 27 | 100 100 | 8 | | 3 | | 16 | | |
| Percent | 100.00% | - | 29.639 | 29.63% | | 11.11% | | 59.26% | |

^{*} The difference between the weighted average of reselling prices > weighted average cost of treasury shares by presenting in "Paid-in Capital from Treasury Shares".

^{**} The difference between the weighted average of reselling prices < weighted average cost of treasury shares by presenting in deceasing Unappropriated Retained Earnings.