行政院國家科學委員會補助專題研究計畫成果報告

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※發行公司買回庫藏股之長短期宣告效果與影響因素分析※
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計畫類別：☑個別型計畫　　□整合型計畫
計畫編號：NSC90－2416－H－002－014－
執行期間：90 年　8 月　1 日至 91 年　7 月 31 日

計畫主持人：李存修
計畫參與人員：謝尚蓉

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- □出席國際學術會議心得報告及發表之論文各一份
- □國際合作研究計畫國外研究報告書一份

執行單位：國立臺灣大學財務金融系

中　華　民　國　九　十　一　年　七　月　三　十　一　日

行政院國家科學委員會專題研究計畫成果報告

庫藏股買回之長短期宣告效果

Short and Long Term Reactions of Stock Price to Open Market Repurchase Announcements

計畫編號：NSC 90-2416-H-002-014-

執行期限：90 年 8 月 1 日至 91 年 7 月 31 日

主持人：李存修　國立台灣大學財務金融系

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I、摘要

本文探討庫藏股買回宣告之前與之後的股價行為。如果此一宣告代表股價已被低估之訊號，宣告之後應有正向的異常報酬；如果宣告之意義代表公司將有較佳的業績表現，此一正向異常報酬應可持續較長時間。研究結果的確支持這些假說。

多次宣告仍有正面的價格激勵效果，即使是接續的四次宣告對上市公司仍有顯著的正異常報酬，但上櫃公司在第三次及之後的宣告即無顯著的異常報酬存在。上市公司的系統風險在宣告庫藏股買回後顯著下降，，上櫃公司則不明顯。如果公司所宣告的買回價格區間較寬，正的異常報酬會越大，其他的變數則無顯著的解釋能力。

關鍵詞：庫藏股買回，宣告效果，異常報酬。

Abstract

We investigated whether or not there were negative abnormal returns prior to the repurchase announcement and positive abnormal returns after the announcement. If the repurchase signals an undervalued stock price or better future earnings forecast, then there may be short-run positive abnormal returns following the announcement. If the value of the positive information comes from the better earnings forecast, then there may be long-run positive abnormal returns. It was found that there were indeed short- and long-run abnormal returns for the first repurchases of TSE and OTC firms.

As for the effect of multiple announcements, the second- to fourth-time repurchase announcements of TSE firms were followed by significant positive abnormal returns; however, they were not as strong as the first time. OTC firms had positive abnormal returns for the second announcement; however, this was not observed in third and fourth announcements. There was a significant decline in systematic risk for TSE firms after the announcement. No significant stock price drop was found after the buyback period ended.

Turning to the factors affecting abnormal returns, it was found that firms with a wider buyback price range might be able to preserve more flexibility and, thus, higher abnormal returns. However, other factors used were found to have no significant effect.

Keywords: Treasury Stock, Share Repurchase, Abnormal Returns, Announcement Effects

II、Introduction

The amendment to Taiwan Securities and Exchange Law, Article 28-2, was passed in June 2000, allowing TSE- and OTC-listed firms to repurchase a portion of their outstanding shares under certain conditions and regulations. Companies can buyback their shares: 1) When the buyback is to transfer shares to employees; 2) When the

buyback is for equity conversion in coordination with the issuance of corporate bonds with warrants, preferred shares with subscription rights, convertible corporate bonds, convertible preferred shares or stock warrants; or 3) When the buyback is required to maintain the company's credit and shareholders' wealth and the shares so purchased are cancelled.

Limitations on the quantity or amount of shares to be repurchased are also stated in the new regulations: 1) The number of shares bought back shall not be more than 10 percent of the total number of issued and outstanding shares of the company; 2) The total amount of shares bought back shall not be more than the amount of retained earnings plus premium on capital stock plus realized capital gains; and 3) The total number of shares repurchased per day may not exceed one-third of the total number of shares planned for repurchase.

The law also covers the execution process. Firms can buyback upon the approval of more than half of the directors present at a Board of Directors' meeting attended by two-thirds or more of directors. Firms should make public announce of the repurchase, and report the required items to the Securities and Futures Commission (the "SFC") within two days of the day on which the resolution was made at the meeting of the Board of Directors. The company shall complete its repurchase within two months. Besides, upon expiration of that period or within five days of completion of the repurchase, the company should submit a report to the SFC and announce the status of execution of the repurchase. Shares bought back by a company in accordance with the first purpose (for transfer to employees), should be transferred within three years from the date of the buyback. If the repurchase is in accordance with the third purpose (to maintain the company's credit and shareholders' wealth), the capital reduction shall be put into effect within six months of the buyback date.

Open-market repurchases have commonly been used for some time in the West as a means of distributing corporate cash flow to shareholders. It is well documented that the stock market responds favorably to a company's announcement of share repurchases. The literature provides abundant motives for why companies might repurchase their own shares. According to Dittmar (2000), the motivations are:

1) Undervaluation Hypothesis: Information asymmetry between insiders and shareholders may cause a company to be misvalued. If insiders believe that stock is undervalued, the firm may repurchase stocks as a signal to the market. Dann (1981), Vermaelen (1981), Ikenberry, Lakonishok, and Vermaelen (1995) show that there are both short-run and long-run abnormal returns after the announcement, particularly in low market-to-book companies.
2) Excess Capital Hypothesis: Companies distribute excess capital to shareholders through open-market repurchases. This point was raised by Jensen (1986) and supported by Stephens and Weisbach (1998) in their empirical researches.
3) Signaling Hypothesis: McNally (1999) believes that firms that repurchase more have higher earnings. This was supported by his empirical research. Stephens and Weisbach (1998) find that share repurchases are negatively related to prior stock price performance, suggesting that repurchases depend on a degree of perceived undervaluation. Lucas and McDonald (1998) show that, without fixed costs to repurchase, there is a separating equilibrium in which managers use taxable dividends to signal the quality of the firm, with better firms paying lower dividends using repurchases for the remainder of the payout. With fixed costs to repurchase, small payouts are made by dividends and large payouts are divided between repurchases and dividends. In both cases, larger repurchases reveal better news. However, if companies announce repurchase plans with no intention of really buying back, they face moral and legal risks (Kracher and Johnson, 1997). Besides, their stock price tends to fall at

the end of the buyback period (Vermaelen, 1981; Dann, 1981).

Ikenberry and Vermaelen (1996) value the flexibility of repurchase as an exchange option in which the market price of the stock is exchanged for the true value of the stock. Therefore, the repurchase announcement expands the company's investment opportunity. Nohel and Tarhan (1998) argue that repurchases do not appear to be pure financial transactions meant to change the firm's capital structure, but are part of a restructuring package meant to shrink the assets of the firm to more efficient uses.

Dann, Masulis and Mayers (1991) find positive earnings surprises and equity systematic risk reduction after tender offers. Bartov (1991) documents a weak indication of positive unexpected annual earnings in the repurchase announcement year and positive revisions of earnings forecasts by analysts around announcement dates.

4) Optimal Leverage Ratio Hypothesis: Companies achieve their target leverage ratio through repurchases (Bagwell and Shoven, 1988; Opler and Titman, 1996).
5) Management Incentive Hypothesis: Stock options encourage managers to substitute repurchases for dividends because repurchases do not dilute the per-share value of the firm (Dunsby, 1994; Jolls, 1996; Fenn and Liang, 1997).

6) Takeover Deterrence Hypothesis: Repurchases can be used as a takeover defense because a repurchase can increase the lowest price for which the stock is available (Bagwell, 1991; Denis, 1990).

When it comes to the characteristics of repurchasing firms, Barth and Kasznik (1999) find that firms with more intangible assets are more likely to repurchase shares and have more positive announcement returns because repurchase is a good way to reveal the value of intangible assets. Besides, they also find that general information asymmetry is negatively related to repurchase likelihood, but announcement returns are positively related. Also, the higher the holding percentage of institutional investors, the larger the repurchase likelihood and announcement of abnormal returns (Ratner, Szewczyk and Tsetsekos, 1996).

Jagannathan, Stephens and Weisbach (2000) point out that firms with higher 'temporary' non-operating cash flows tend to use open-market repurchases, while firms with higher 'permanent' operating cash flows tend to pay dividends.

Industry characteristics can affect buyback decisions as well. Gelb (2000) finds that firms in high-concentration industries are inclined to disclose more information directly. By contrast, firms in low-concentration or low entry-barrier industries tend to reveal information by repurchases.

The purpose of this paper is to examine the following issues:

1) Short-run abnormal returns during the announcement period, including marginal effects on multiple announcements.
2) Testing factors affecting the short-run abnormal returns from previous literatures, e.g. book-to-market value, buyback percentage, firm size.
3) The difference between pre-announcement and post-announcement equity systematic risk.
4) Whether or not there are negative abnormal returns after the end of the buyback period, and the relation between short-run abnormal returns and the actual execution percentage.
5) Long-run abnormal returns for one year after the announcement.

Ⅲ、Data, Methodology and Results

Repurchase regulations were officially put into practice on Aug. 9, 2000; therefore, our sample consists of open-market repurchases announced between August 2000 and December 2001 taken from the TSE and OTC databases. Stock return data came from the TEJ database. A total of 506 TSE and 213 OTC repurchase announcements were found during this period.

We use standard event study methodology to investigate the

announcement effects. The significance of abnormal returns are tested using Corrado Statistics (1989,1992), Brown & Warner tests (1980,1985) and P-test. As to the factors that may affect the magnitude of abnormal returns, book-to-market ratio, absolute and relative size of the repurchase, price range of the buyback, abnormal returns before announcement and firm size are used as independent variables against which simple and multiple regressions are run.

We also analyze possible changes in systematic risk following the announcement through paired t-test, modified Levene Test and P-tests. The price behavior after the end of buyback execution as well as long-term abnormal returns are examined by both buy-and-hold approach and wealth relative approach.

Empirical results are summarizes in the following section.

Ⅳ、Conclusions

It was observed that repurchase firms did have significant negative abnormal returns before the announcement and positive abnormal returns following the announcement in the short-run. In the long-run, repurchase firms in the TSE sample had significant 12.91% buy-and-hold abnormal returns, and 4.15% in the OTC firm sample.

Furthermore, it was found that second-time repurchase abnormal returns, though they were significant, were not as strong as the first time. Third-time and fourth-time repurchases still had abnormal returns following the announcement in the TSE sample, but there were no significant cumulative abnormal returns for the OTC sample.

We tried to discover which factors might affect abnormal returns. It was found that price range of the repurchase was the most significant factor, suggesting that firms with a wider range of price bound may preserve more flexibility in practicing the buyback. Though book to market ratio, relative and absolute size of the repurchase, were also significant in some sub-samples of multiple announcements, it could not be concluded that they are the key factors just based on the weak evidence. A significant beta decline occurred in TSE repurchase firms, but not in OTC firms.

Finally, it was found that there was no significant stock price drop after the buyback period ended. However, within the buyback period, the abnormal returns were very significant.

Taken together, the abnormal return results were consistent with the view of previous literature. However, due to the research time limitation, the time horizon of long-run abnormal returns was only one year. Long-run return examination over three to four years was left for further investigation.

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