The market for Gree's share buyback should be analysed

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Abstract. With the continuous improvement of the capital market and related regulations, the number of companies implementing share buybacks has gradually increased. When faced with large fluctuations in the stock market, many companies choose share buybacks to stabilize their share prices. This paper selects the three phases of GREE's share buyback from 2020 to 2021 as the research object, and uses the event study method to analyse the changes in share price and excess return of GREE's share buyback process, and further analyses the market effects generated by the three phases of share buyback. The study found that the positive market effect of the three share buybacks implemented by Gree Electric was limited. By analysing the market effects of the share buybacks of Gree Electric, we suggest that companies implementing share buybacks should not overstate the positive effects of share buybacks.

Keywords: Gree Electric; share buyback; market effect.

1. Introduction

With the introduction of the newly revised Companies Act in 2018, the restrictions on share buybacks have been relaxed and more and more companies are making use of this financial instrument. 2020 has been a year when the economy has been hit hard by the external environment and the stock market has been affected by this, hence the emergence of numerous companies using share buybacks to stabilise share prices. A share buyback is an act by which a company repurchases issued or outstanding shares through a certain process for the purpose of improving earnings per share, changing the capital structure of the company and enhancing the value of the company. However, some companies have implemented share buybacks purely for the purpose only, without giving due consideration to the numerous effects that the implementation of share buybacks would have. In the wave of share buybacks in the last two years, Gree has implemented three share buybacks, which are huge and have attracted much attention. Therefore, this paper selects the case of Gree's three share buybacks as a case study to analyse the market effects generated by share buybacks.

2. Introduction to GREE's multiple share buybacks

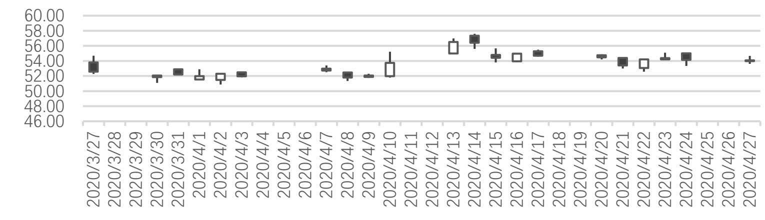
2020 As a result of the external environment, as well as price wars and new energy efficiency price cuts to destock, Gree's profits declined. During the year, Gree's share price fell by more than 25%, causing serious discontent among shareholders. As the economy recovered in the second half of 2020, Gree's share price did not appear to be on the verge of "rebounding". In order to turn the situation around, three consecutive share buybacks were initiated in 2020, which drew the attention of investors. On April 10, 2020, GREE's board of directors considered and passed a proposal to buy back some of the public shares under the company's employee stock ownership plan or share incentive scheme. The first share repurchase was conducted on 17 July 2020, and a total of 108,365,753 shares of the Company were purchased by 24 February 2021, with a total transaction amount of RMB5,999,591,034.74. On 13 October 2020, the Board of Directors considered and approved the "Proposal on the Repurchase Programme of Part of the Shares of the Public". The relevant announcement on the progress of the second phase of share repurchase was disclosed on 7 May 2021. Up to 17 May 2021, the second phase of the repurchase was conducted and concluded with a total of 101,261,838 shares purchased for a total transaction amount of RMB5,999,520,920.65. On 26 May 2021, the Board of Directors considered and approved the proposal to repurchase part of the public shares for the GREE Employee Share Ownership Scheme and for the purpose of conducting share incentive. By 9 September 2021, the third phase of the repurchase was conducted and a total of 315,760,027 shares were purchased at a total cost of RMB14,999,985,072.39.

3. Analysis of the market effect of GREE's multiple share buybacks

3.1 Impact of share buybacks on share price

Xu Xinyan (2020)[1] started from the mode and purpose of buybacks, and through theory combined with case studies and then empirical tests, concluded that the use of centralized bidding trading and share buybacks for the purpose of equity incentives would increase the company's share price in the short term. Li Jun (2021)[2] used the event study method to analyse the market effect of the three share buybacks of Midea Group and concluded that there was a diminishing effect. Zhou Shuhui (2016)[3] discussed that the market effect of share repurchase refers to the capital market's reaction to the repurchase after the listed company conducts the share repurchase, and it will be expressed in the stock price or stock yield of the listed company. The share price reflects the value of the company in the market and the market's expectation of the company's development. When a listed company announces a share buyback in the market, if investors have better expectations for the company, the company's share price will rise, and conversely if investors have bad expectations for the company, the share price will fall rather than rise. In this paper, the stock prices of the 10 trading days before and after the date when Gree started its three share buyback announcements were selected as the object of study to analyse the impact on the stock price before and after Gree's share buyback.

On 10 April 2020, Gree held a board meeting to announce its first share buyback programme. Therefore, the share price for the period from 27 March to 27 April was chosen for the analysis. From the analysis of Figure (1), it is clear that Gree's share price fluctuated significantly, and had been in decline for the first ten trading days of the first phase of the repurchase announcement, with the share price falling to a low of RMB50.88 per share. On the other hand, the share price started to rise on April 10, the day the buyback plan was announced, rising to a high of RMB57.6 per share. During this period, Gree did not release any announcement that would affect the stock price, so it was judged that there might be a problem of information leakage of Gree's share buyback during the period, and the cost of buying the shares was reduced before the share buyback while the stock price was at a low level. From 15 April the share price started to fall again. Thus Gree did stimulate the share price after the first share buyback announcement, causing the share price to rise, but the sustained effect was poor and the share price began to fall again just two days later.

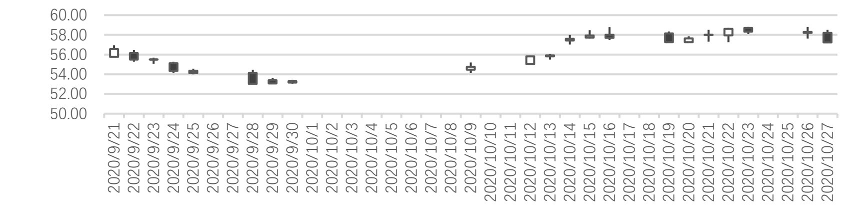


	2020/3/27	2020/3/30	2020/3/31	2020/4/1	2020/4/2	2020/4/3	2020/4/7	2020/4/8	2020/4/9	2020/4/10	2020/4/13	2020/4/14	2020/4/15	2020/4/16	2020/4/17	2020/4/20	2020/4/21	2020/4/22	2020/4/23	2020/4/24	2020/4/27
Opening	53.8	51.8	52.8	51.5	51.4	52.4	52.9	52.4	52.0	51.9	55.0	57.3	54.8	53.9	55.2	54.7	54.4	53.0	54.2	55.0	53.9
Highest	54.7	52.1	52.8	52.9	52.3	52.5	53.4	52.5	52.3	55.2	56.9	57.6	55.6	55.0	55.4	54.8	54.4	53.4	55.1	55.1	54.6
Minimum	52.2	51.0	52.1	51.5	50.8	51.8	52.5	51.3	51.7	51.7	54.8	55.6	53.8	53.8	54.5	54.2	53.0	52.5	54.2	53.3	53.6
Closing	52.5	52.0	52.2	51.9	52.3	51.9	52.7	51.8	51.8	53.7	56.5	56.4	54.4	54.9	54.7	54.4	53.4	54.2	54.3	54.1	54.0

Figure 1 Share price movements around the date of the First Share Buyback announcement

Data source: Wind database

On 13 October 2020, GREE announced its second share buyback. So the share price for the period from 21 September to 27 October was selected for analysis. As can be seen from Figure (2), the share price was also falling all the way before the second share buyback announcement, from RMB56.55 per share to RMB55.82 per share. Unlike the first period, from the date of the second share buyback announcement, the share price began to rise consistently, and was higher than the announcement date for the next 10 trading days, with the highest share price rising to RMB58.78 per share during this period. Overall, over the 20 trading days, the highest share price rose by 10.90% compared to the lowest share price. In the second share buyback, the share price started to rise again two days before the buyback announcement was issued, indicating that there was also information leakage, but this time the information leakage did not affect the trend of the share price after the announcement was issued, and the good trend of the share price after the announcement was issued reflected that investors had good expectations for the second share buyback of Gree, and the company also made a significant increase in the share price through the share buyback.

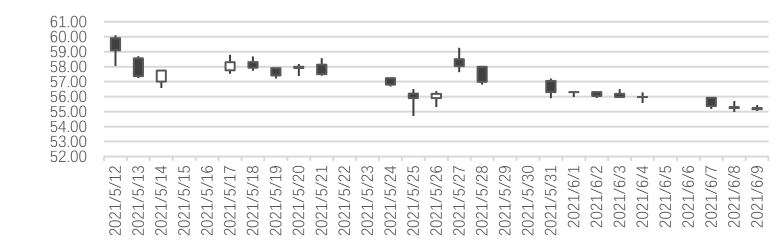


	2020/9/21	2020/9/22	2020/9/23	2020/9/24	2020/9/25	2020/9/28	2020/9/29	2020/9/30	2020/10/9	2020/10/12	2020/10/13	2020/10/14	2020/10/15	2020/10/16	2020/10/19	2020/10/20	2020/10/21	2020/10/22	2020/10/23	2020/10/26	2020/10/27
Opening	55.7	56.1	55.5	55.1	54.3	54.1	53.4	53.1	54.4	55.0	55.8	57.4	57.7	58.0	58.1	57.2	58.0	57.9	58.7	58.3	58.2
Highest	56.9	56.4	55.6	55.2	54.5	54.4	53.6	53.4	55.2	55.9	56.0	57.9	58.4	58.7	58.3	57.8	58.5	58.7	58.8	58.8	58.5
Minimum	55.6	55.2	55.0	54.1	53.9	53.0	53.0	53.0	54.1	55.0	55.5	57.0	57.6	57.4	57.2	57.2	57.3	57.2	58.0	57.6	57.2
Closing	56.5	55.5	55.5	54.3	54.1	53.0	53.0	53.3	54.7	55.8	55.9	57.6	57.9	57.7	57.2	57.6	58.0	58.6	58.3	58.1	57.2

Figure 2 Share price movements around the date of the second share buyback announcement

Data source: Wind database

On 26 May 2021, Gree announced its plan for a third share buyback. Therefore, the share price for the period from 12 May to 9 June was selected for analysis. As can be seen in Figure (3), the share price situation prior to the third share buyback announcement was the same as the previous two periods in a downward state, falling from a high of RMB60.1 per share to RMB54.7 per share. After the buyback announcement was made, the share price also rose, from a low of RMB55.32 per share to RMB59.72 per share. But two days later the share price began to fall consistently, even falling to a condition where it was lower than the lowest share price in the 10 trading days before the buyback announcement was made. In this share buyback, the market did not react as expected, but only served to retard the decline in the company's share price, and investors were also able to see through.The first two share buybacks had a calm reaction to the third share buyback, and doubts arose about Gree conducting share buybacks as good news for the company, and the share buyback failed to stimulate investor enthusiasm.



	2021/5/12	2021/5/13	2021/5/14	2021/5/17	2021/5/18	2021/5/19	2021/5/20	2021/5/21	2021/5/24	2021/5/25	2021/5/26	2021/5/27	2021/5/28	2021/5/31	2021/6/1	2021/6/2	2021/6/3	2021/6/4	2021/6/7	2021/6/8	2021/6/9
Opening	59.	58.	57.	57.	58.	57.	57.	58.	57.	56.	55.	58.	58.	57.	56.	56.	56.	55.	55.	55.	55.
Highest	60.	58.	57.	58.	58.	57.	58.	58.	57.	56.	56.	59.	58.	57.	56.	56.	56.	56.	55.	55.	55.
Minimum	58.	57.	56.	57.	57.	57.	57.	57.	56.	54.	55.	57.	56.	55.	55.	55.	55.	55.	55.	54.	55.
Closing	59.	57.	57.	58.	57.	57.	58.	57.	56.	55.	56.	58.	56.	56.	56.	56.	55.	55.	55.	55.	55.

Figure 3 Share price movements around the date of the third share buyback announcement

Data source: Wind database

3.2 Impact of GREE's share buyback on excess return

Initially, Xu et al. (2003)[4] concluded that companies generate excess returns before and after the announcement of share buybacks. Puzzle and Zhang Weiqun (2005)[5] used an event study method to select firms that implemented share buybacks before 2005 and analysed the market effects generated seven days before and seven days after the announcement date, concluding that the cumulative excess returns seven days before the announcement date were smaller than those seven days after, and there might be early information leakage. Wu, J. and Yang, Mengxin (2019)[6] used a sample of companies that implemented share buybacks after the amendment of the company law in 2018 and concluded that the excess return rose most prominently on the day of the announcement date and the cumulative excess return turned from negative to positive with the announcement date as the turning point.

The implementation of the share buyback program by Gree will cause share price volatility, at which point an excess return will be generated, the positive or negative value of which reflects the positive or negative effect of the share buyback on the share price. The excess return is the difference between the expected return and the actual return, and the cumulative excess return yields the cumulative excess return. In this paper, a sample of stock prices for 10 trading days before and after the announcement date of the share buyback, a total of 21 trading days, are selected for analysis to calculate the excess return (AR) and cumulative excess return (CAR) to determine the positive and negative effects of share buybacks on the company's share price.

Determine the event window period. The three announcement dates of Gree's share buyback plan are 13 April 2020, 13 October 2020 and 26 May 2021. Taking these three days as the event dates and the event date as the central date, pushing 10 days before and after each, there will be a total of three periods of 21 business days each, each period being a window period, each window period being recorded as [-10, 10].

Determining the estimation period. In this paper, the daily return on the closing price of the stock market 120 days before the announcement date of the three periods is taken as the estimation period.

The specific calculation process is as follows:

$$R_t = (P_t - P_{t-1}) / P_{t-1}$$

$$R_{mt} = (P_{mt} - P_{mt-1}) / P_{mt-1}$$

$$R_t^{'} = \alpha_t + \beta \times R_{mt}$$

$$AR_t = R_t - R_t^{'}$$

$$CAR_t = \sum AR$$

The above formula shows that the daily expected return (R't) is linearly related to the daily actual return (Rmt) of the SZSI. The closing points of the market and individual stocks in the estimation period are collated to make a scatter plot of the expected return, and the scatter plot of the expected return of the first period stock repurchase is shown in Figure (4).

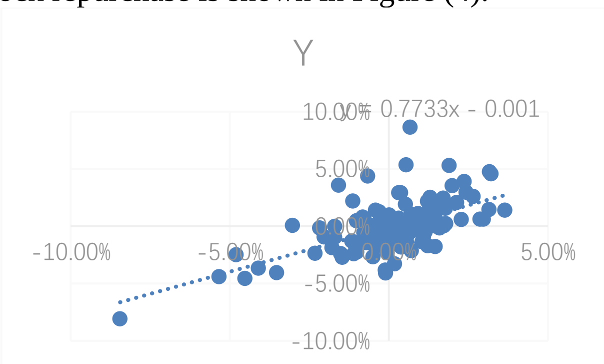


Figure 4 Estimated period expected return

Data source: compiled from wind database

From Figure (4), αt = -0.001 and β = 0.7733

The excess return (AR) and cumulative excess return (CAR) for the first window period are calculated and shown in Figure (5).

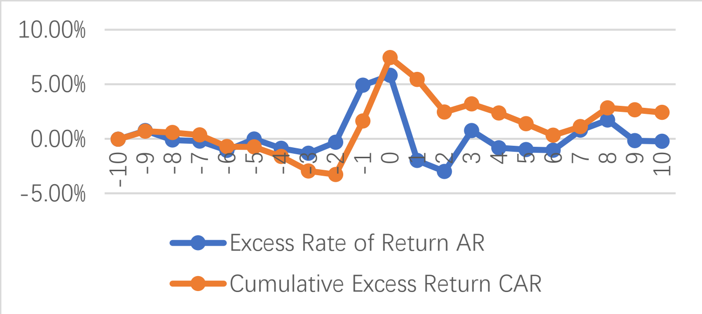


Figure 5 Excess return and cumulative excess return on share repurchases in the first period

As shown in Figure (5), the excess return was relatively stable with a small variation during the period [-10,-3]. By the period [-2,0], which was also the first two days of the announcement date of Gree's first share buyback, the excess return rose by 7.15%. The share price rose sharply in advance before the share buyback was announced, indicating that the information was leaked in advance. The excess return fell rapidly again during the [0,-2] period, suggesting a large number of shares were sold off, causing the share price to fall. By [3,10] the excess return resumes its daily state, fluctuating around 0. It can be seen that the announcement of the first share buyback program had the effect of boosting the share price, but not stabilising it.

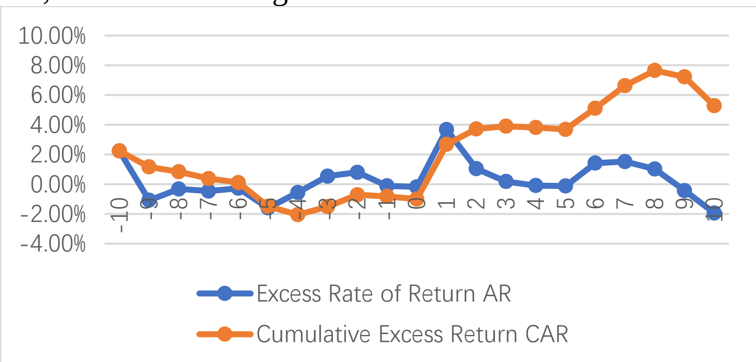


Figure 6 Second period share repurchase excess returns and cumulative excess returns

As shown in Figure (6), it can be seen that the excess return during [-10,0] fluctuates up and down around 0. From the announcement date (t=0) the excess return started to rise, by 3.50%, indicating that the announcement of the share buyback plan boosted the share price, and this time the apparent rise in excess return was on the announcement date, with no obvious information leakage. The excess return has been falling during [1,5], but the cumulative excess return has been rising overall during [0,8]. Overall, the second share buyback had a better positive effect on share prices than the first, but the degree of positive impact was also limited.

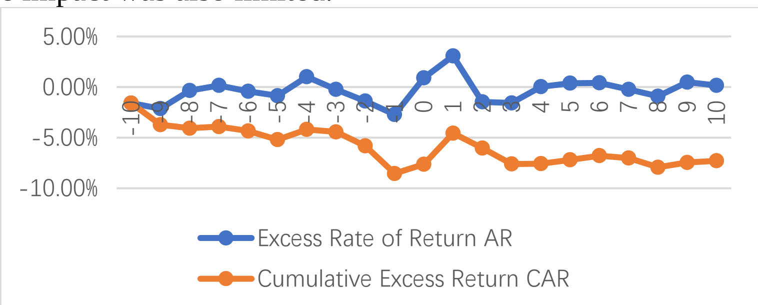


Figure 7 Excess return and cumulative excess return on share repurchases in the second period

Figure (7) shows that during the [-10,-1] time period, the excess return fluctuated around 0 and was in a daily state. During the [-1,1] time period the excess return appears to rise significantly, with the upward trend starting the day before the announcement of the share buyback, indicating the possibility of information leakage as well. Then in the [3,10] time period, the excess return returned to its daily state. However, the cumulative excess return has been negative during the [-10,10] period and is in an overall retreat. Overall, investor reaction to the Gree share buyback has become calmer during the third share buyback period and this buyback has failed to achieve the effect of enhancing and stabilising the share price.

4. Conclusions and recommendations

The short-term market effect of share buybacks is decreasing, and the positive market effect gradually decreases as the number of buybacks increases, which is consistent with the findings of Stephens (2003) and Li Jun (2021). China's principle for share buybacks is "general prohibition, special permission". As a result of the lack of strict compliance with the requirements, information is leaked in advance in share buybacks and investors' trust is lost.

The following recommendations are made, specifically for companies to ensure that they have sufficient capital reserves before conducting share buybacks to prevent a break in the capital chain during the buyback process, which could affect the normal operation of the company; to have a rational estimate of investors' attitude towards the implementation of share buybacks; to consciously comply with the company's internal procedures for share buybacks, to effectively protect the interests of creditors, to treat major shareholders and minority shareholders fairly, and to disclose information on share buybacks in a timely manner. Timely disclosure of information on share buybacks. The government should also improve the procedures for share buybacks, urge companies to take the initiative to disclose information, prevent insider trading, set reasonable standards for share buybacks, and clarify the source of funding for share buybacks. If companies use capital surplus or even the company's share capital as buyback money, it is tantamount to dividends in disguise, which may even constitute a case of capital withdrawal.

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