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The Impact of Issuing Preferred Shares on Company Stock Prices in China — An Analysis Based on the Event Study Method

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Abstract: Preferred shares, as a special and important financing tool, combine the characteristics of both bonds and stocks. Issuing preferred shares can prevent equity dilution, increase corporate capital, and improve the capital structure and governance mechanisms of enterprises. This study uses the event study method to measure the market impact of preferred shares issuance, analyzing all listed companies in China that issued preferred shares for the first time by the end of September 2023. The results show that the stock prices of related companies generally increased after issuing preferred shares, indicating a positive impact on common stock prices. Overall, issuing preferred shares produces beneficial effects for enterprises.

Keywords: Preferred shares, Event study method, Financing.

1. Introduction

After the 2008 financial crisis, Chinese enterprises faced financing challenges. Traditional financing methods failed to meet corporate needs. As a long-standing financing tool abroad, preferred shares combine the characteristics of bonds and stocks, meeting various demands and playing a significant role in the capital market [1]. However, preferred shares were not formally introduced in China until 2013.With increasing academic research, optimizing the use of preferred shares to better serve the capital market has become a major research topic. Issuing preferred shares positively impacts market structure optimization, improves financing environments, enriches investment options, and strengthens corporate governance [2]. Additionally, issuing preferred shares promotes sound investment awareness and discourages speculative tendencies in China's stock market [3]. Thus, conducting in-depth research on preferred shares holds significant meaning and value.To examine the impact of preferred shares on listed companies, this study uses the event study method to calculate the average abnormal returns (AAR) and cumulative abnormal returns (CAR) within the event window for 22 listed companies that issued preferred shares. The findings are analyzed to determine the effect on stock prices.

The paper is structured into six sections:

(1) Review of existing research on preferred shares and discussion of research methods and content.

(2) Introduction to the basic concepts of preferred shares.

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(3) Overview of the development of preferred shares domestically and internationally.
(4) Explanation of the research methodology.
(5) Empirical analysis of 22 listed companies issuing preferred shares and interpretation of the results.
(6) Summary of the research findings and suggestions for the development of preferred shares in China.

2. Basic Concepts and Characteristics of Preferred Shares

Preferred shares are a corporate financing tool that possesses both equity characteristics and debt-like features. Their preferential nature lies in their priority over common shares in profit distribution and residual asset claims. Generally, preferred shares offer fixed dividends, which can be paid at a fixed rate or amount. Enterprises must pay the fixed dividends to preferred shareholders before distributing any remaining profits to common shareholders.In the event of bankruptcy liquidation, preferred shareholders have a higher claim priority than common shareholders but rank below debt holders. Unlike common shares, preferred shares typically do not carry voting or decision-making rights. This means preferred shareholders cannot elect board members or participate in strategic decision-making.To provide a comprehensive understanding of preferred shares, Table 1 compares them with bonds and common shares.

Table 1: Comparison of Common Stocks, Preferred Stocks, and Bonds

	Common Stock	Preferred Stock	Bond
Nature	Equity	Between equity and debt	Debt
Repayment Position	Last	Middle	First
Repayment Method	Dividend payments	Dividend payments	Principal and interest payments
Term Length	No maturity date	No maturity date	Varies (fixed term
Voting Right	Yes	No	No
Credit Rating	No rating	Rated	Rated
Legal Obligations	Dividends are not a legal obligation	Not a legal obligation, but failure to pay dividends after a certain period may require liquidation	Failure to pay principal or interest on time gives bondholders the right to enforce claims

3. Overview of the Development of Preferred Shares Domestically and Internationally

The U.S. preferred share market has a long history, originating in the 19th century during the era of railway construction and becoming widely applied to public utilities by the mid-19th century. From 1990 to 2005, the market size expanded from \$53 billion to \$193 billion. During the 2008 financial crisis, the U.S. government injected \$125 billion into major banks through preferred shares, effectively alleviating the liquidity crisis and boosting market confidence. The U.S. preferred share market is renowned for its maturity and innovation, exemplified by the introduction of trust preferred shares, a financial instrument combining features of both preferred shares and bonds [4]

The preferred share market in the United Kingdom emerged in the late 19th century, with railway and utility companies as primary issuers. The market continued to grow during the two World Wars

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and became an important financing method for companies in the post-war decades. Although its scale has declined in recent years, preferred shares remain a viable option for corporate financing.

Hong Kong's preferred share market began developing in the early 20th century. As Hong Kong became an international financial center, preferred shares were adopted as a financing method. By the late 20th century, the growth of Hong Kong's financial market attracted more international investors, and some global companies issued preferred shares in Hong Kong [5].

The development of the mainland China preferred share market has undergone several phases. In the 1980s, prototypes of participatory preferred shares emerged, allowing shareholders to receive fixed interest and proportionate dividends from corporate profits. In the early 1990s, the preferred share system began to take shape. However, the absence of clear provisions on preferred shares in the 1993 Company Law led to stagnation in development between the 1990s and 2005. The implementation of the *Provisional Measures for the Administration of Venture Capital Enterprises* in 2006 brought preferred shares back to the legislative agenda, allowing venture capital enterprises to invest in unlisted companies through preferred shares. The *Administrative Measures for the Pilot Program of Preferred Shares*, issued in 2014, officially established the legal status of preferred shares and laid the foundation for their development in China. In February 2023, the measures were revised, and by the end of September, 22 listed companies had issued preferred shares.

4. Research Methodology

The event study method is a commonly used research approach in economics and finance to analyze the impact of specific events on stock prices and to determine whether "abnormal returns" are generated. This method provides a straightforward way to evaluate the relationship between stock prices and specific events, helping researchers understand market reactions, assess the impact of policy changes, or analyze the effects of company announcements on stock prices.The event study method typically involves the following eight steps:

(1) Defining the Event: Clearly and accurately defining the event under investigation is crucial. Examples include a company's announcement of earnings forecasts or merger plans. The precision of the event definition is key to the study's success.

(2) Identifying the Event Date: The event date refers to the time when the market receives news of the event's occurrence or potential occurrence, often corresponding to the announcement date rather than the actual occurrence date. Proper identification of the event date is critical for the study's accuracy.

(3) Collecting Sample Data: Select all companies that meet the event definition criteria within a given time period as the sample for the study. The event study method requires time-series data, including data before and after the event. This data typically includes stock prices, market indices, and other related variables.

(4) Selection of the event window: Generally, the event date is marked as day 0. The nth trading day before the event date is labeled as -n, and the nth trading day after the event date is labeled as +n. This results in an event window of [-n, +n], with a [-20, +20] event window being the most commonly used.

(5) Determining the Estimation Window: In some cases, it is necessary to estimate the normal returns within the event window, i.e., the returns that would have occurred if the event had not taken place. Typically, the estimation window spans at least 120 days.

(6) Estimating Normal Returns Using Models: Under the assumption of an efficient market, the impact of a corporate announcement is reflected in stock price fluctuations. The abnormal return (AR) is calculated as the difference between the actual return of a stock after the event and the estimated normal return based on a statistical model. Two commonly used models for estimating expected returns are the market model and the market-adjusted model.

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Using the market model as an example, the abnormal return (AR) can be expressed as:

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{m,t}) \tag{1}$$

Where:

$R_{i,t}$ represents the actual return of the stock, and $(\alpha_i + \beta_i R_{m,t})$ represents the expected return, which is determined by the excess return α_i, market risk β_i, and the market return $R_{m,t}$.

For the market-adjusted model, the abnormal return (AR) is expressed as:

$$AR_{i,t} = R_{i,t} - R_{m,t} \tag{2}$$

(7) To calculate the Average Abnormal Return (AAR) and Cumulative Abnormal Return (CAR), the calculation of $AR_{i,t}$ refers to the abnormal return of stock i on day t. Additionally, the Average Abnormal Return $AAR_{i,t}$ and the Cumulative Abnormal Return $CAR_{i,t}$ are calculated to study the impact of the event on the overall stock price fluctuation. The specific calculation methods are as follows:

$$AAR_{i,t} = \frac{1}{N}\sum_i^N AR_{i,t} \tag{3}$$

Here, N represents the number of sample companies, and t refers to a specific time point within the event window. The Cumulative Abnormal Return (CAR) is the sum of abnormal returns for sample company i over the period from t_1 to t_2. The calculation is as follows:

$$CAR_i(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_{i,t} \tag{4}$$

To assess the overall impact of an event on stock prices, cumulative average abnormal returns (CAAR) are calculated as follows:

$$CAAR_i(t_1, t_2) = \sum_{t=t_1}^{t_2} AAR_{i,t} = \frac{1}{N}\sum_{i=1}^{N} CAR_i(t_1, t_2) \tag{5}$$

Here, N represents the number of sample companies, and $CAAR_i(t_1, t_2)$ is the arithmetic average of the cumulative abnormal returns over the period from t_1 to t_2, which is obtained by summing the abnormal returns.

(8) Significance Testing of CAR: The significance test for cumulative abnormal returns (CAR) is a crucial step, mainly to determine whether the mean of the cumulative abnormal returns is significantly different from zero. The null hypothesis H_0: states that the mean of the cumulative abnormal returns is zero, while the alternative hypothesis H_1: states that the mean of the cumulative abnormal returns is not zero.

5. Empirical Study on the Effects of Preferred Share Issuance

5.1. Research Design

5.1.1. Research Approach

Since the implementation of the *Administrative Measures for the Pilot Program of Preferred Shares*, various companies have disclosed announcements regarding preferred share issuance plans. These announcements are selected as events to observe their market impact. Using the event study method,

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stock price data before and after the event is analyzed to assess the influence of preferred share issuance on the market value of listed companies. If the event positively impacts stock prices and market value, significantly positive abnormal returns will appear around the event date.

5.1.2. Research Hypothesis

Preferred shares provide an attractive financing option for listed companies, enabling them to raise capital without diluting control. For investors, preferred shares offer stable returns with relatively low risk. For common shareholders, preferred shares typically do not significantly affect their interests. Therefore, the issuance announcement of preferred shares should have a positive effect on the stock price of listed companies.

H_1**:** The announcement of preferred share issuance plans positively affects the common stock prices of related listed companies.

5.2. Sample Selection and Data Sources

The study covers the period from 2014 to the end of September 2023. The sample consists of listed companies on the Shanghai and Shenzhen stock exchanges that issued preferred shares for the first time during this period. After screening, 22 companies were selected as research samples. The announcement date of each company's preferred share issuance plan is treated as the event date, with 20 trading days before and after the event forming the event window $[-20,20]$.

Daily stock returns of the sample companies during the $[-20,20]$ event window, as well as daily returns of the Shanghai Composite Index and Shenzhen Component Index, were collected for the same period. Data Sources: Wind Database and RESSET Database.

5.3. Empirical Analysis

The CAR is subjected to a one-sample T-test, with the results as follows:

Table 2: One-Sample T-test of CAR

Test Value w0						
	t	Mean	Std. err.	Std. dev.	[95% conf. interval]	
CAR	5.5030	.035526	.0064558	.1600977	.022848	.0482041
Ha: mean < 0 Pr(T < t) = 1.0000		Ha; mean! = 0 Pr(|T| > |t|) = 0.000			Ha; mean > 0 Pr(T > t) = 0.0000	

From the table, it can be observed that the P-value is 0.0000, which is less than 0.05. Therefore, the null hypothesis is rejected, indicating that the mean CAR is significantly different from zero. This suggests that the issuance of preferred shares does indeed impact the company's stock prices. To determine the specific nature of this impact, further analysis of the average abnormal return (AAR) and cumulative abnormal return (CAR) is required.

Given the potential β coefficient estimation error associated with using the market model, this study employs the market-adjusted model within the event study methodology to evaluate the effects of preferred share issuance announcements. The event window consists of the 20 trading days before and after the announcement date, covering the $[-20,20]$ eriod. Abnormal returns (AR) for each sample

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are calculated for this period, followed by the calculation of the average abnormal return (AAR) for each trading day. Using these AARs, the cumulative abnormal returns (CAR) for each sample within the [−20,20] window are then computed.

The calculated AARs for the samples within the event window are presented in Figure 1.

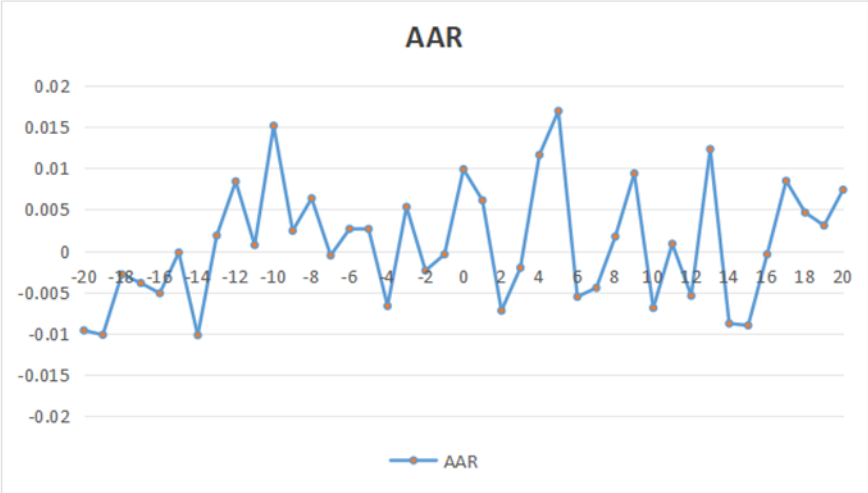

Figure 1: Changes in Average Abnormal Returns (AAR) within the Event Window [-20, 20]
Source: Compiled using Stata software and Excel

From Figure 1, it can be observed that the average abnormal return (AAR) increased significantly on the announcement day of the preferred share issuance plan by listed companies, reaching a peak of 0.01. Additionally, on the fifth trading day after the announcement, the AAR reached its highest point within the event window, exceeding 0.015. Comparing the 20 trading days before and after the announcement, it is evident that the AAR fluctuated around zero during the 20 days prior to the announcement. However, in the 20 days following the announcement, while some decreases were observed, the overall trend remained positive. This indicates that the issuance of preferred shares had a short-term positive impact on stock prices.

The cumulative abnormal return (CAR) for listed companies within the [−20,20] event window is shown in Figure 2:

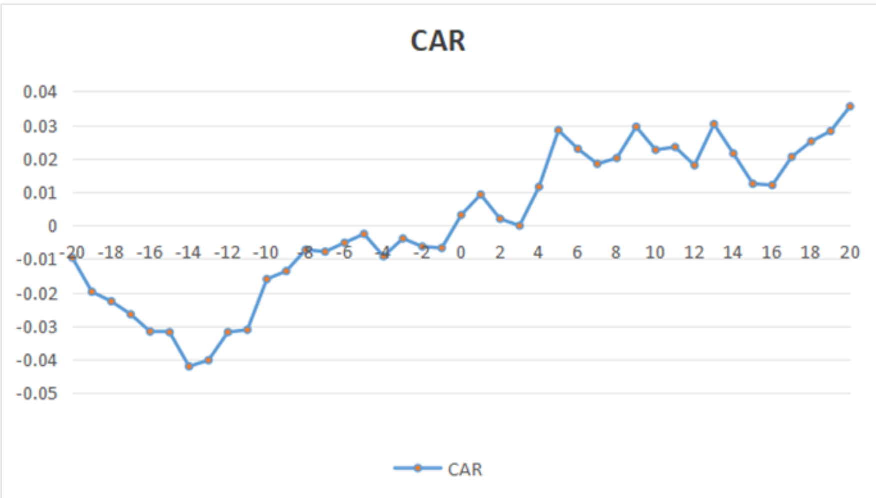

Figure 2: Changes in Cumulative Abnormal Returns (CAR) within the Event Window [-20, 20]
Source: Compiled using Stata software and Excel

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From Figure 2, it is clear that the announcement of the preferred share issuance plan positively impacted the stock prices of the related listed companies. During the [−20,20] event window, the CAR showed an overall upward trend. The most significant increase in CAR occurred on the fifth trading day, and the CAR reached its highest point on the 20th trading day. This further demonstrates that the announcement of the preferred share issuance plan positively affects the stock performance of the issuing companies.

5.3.1. Summary of Empirical Research

Using the event study method, this paper conducted an empirical analysis of 22 listed companies that disclosed announcements of preferred share issuance plans. The results demonstrate that the issuance of preferred shares significantly impacts stock prices. The changes in average abnormal returns (AAR) and cumulative abnormal returns (CAR) during the event period, presented visually through line charts, reveal that issuing preferred shares induces a positive effect on stock prices. This further reflects the optimistic attitude of Chinese investors toward the event of preferred share issuance by companies.

6. Conclusions and Recommendations

This paper introduces the nature and uses of preferred stocks and employs event study methodology to examine the impact of preferred stock issuance on corporate stock prices. The conclusion drawn is that the announcement of a preferred stock issuance plan has a positive impact on the common stock prices of the companies involved. Furthermore, the study finds that preferred stocks can bring certain positive effects to China’s securities market, as reflected in the optimistic attitude of Chinese investors toward the issuance of preferred stocks. Overall, companies can use preferred stocks as a financing tool to alleviate financial pressure, while investors can obtain lower-risk fixed returns. This also allows idle funds in society to flow, promoting the efficiency of the capital market. Although listed companies can flexibly use preferred stocks to supplement capital, optimize corporate governance, and reduce supervision costs, the full potential of preferred stocks has yet to be realized in the current Chinese market.

The following recommendations are made regarding the relevant system, regulation, and corporate strategies related to preferred stocks, in order to make them more effective in serving China's capital market and optimizing the structure of China’s securities market. Regarding the system of preferred stock, it is suggested to moderately relax the restrictions on the entities and types that can publicly issue preferred stocks, fully respecting market autonomy in issuance choices and allowing market mechanisms to play their regulatory role. Restrictions on issuance costs, shareholder voting rights, and other conditions should be implemented according to specific circumstances, avoiding overly high qualitative thresholds or setting thresholds too low. For example, companies issuing preferred stocks should be allowed to design dividend returns that meet legal requirements and align with investor expectations, based on their own conditions and abilities, and to make clear agreements in accordance with relevant laws and regulations. From a regulatory perspective, strict oversight should be implemented on the development of companies issuing preferred stocks, and a review of their disclosure information should be conducted to ensure the effective operation of the capital market. Any actions harmful to shareholders' or national interests should be curbed, and companies that undermine shareholder or national interests should not be tolerated. For the companies themselves, it is essential to enhance their core competitiveness, further consolidate and expand business development, and pursue a more stable, cautious, and comprehensive approach to risk management. The process of promoting the localization of preferred stocks in China is lengthy and requires joint

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efforts from the government, enterprises, and individuals in order for the preferred stock market to gradually mature and flourish.

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