Impact of Lower Interest Rates on Bank Share Prices: The Case of Joint-stock Banks and State-controlled Banks

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Abstract. The banking sector plays the role of an important intermediary connecting the supply and demand sides of the capital, and its stable profitability makes it an important component of dividend stocks. Changes in interest rates are a crucial factor affecting the share price of bank stocks. Against the backdrop of the current global interest rate cuts, this study aims to research the influence of interest rate changes on bank stock prices. This study collects information on share price changes and interest rate changes of eight domestic banks in China over five years from 2020 to 2024 and analyses the impact on bank stock share prices during the interest rate cut window through the event study method. It is concluded that interest rates are negatively correlated with share prices, and state-controlled banks are more significantly affected than joint-stock banks. This study investigates the relationship between interest rate changes and bank stock prices from the perspective of market securities yields, enriching the market with empirical evidence on securities price changes in the financial sector.

1 Introduction

Commercial banks serve as the backbone of modern financial systems, wielding substantial influence over national economic performance. Acting as financial intermediaries, they facilitate the efficient distribution of capital within society, transforming household savings into business investments that drive economic expansion and wealth creation. These institutions also function as the primary conduit for monetary policy implementation, where adjustments in credit availability directly shape real economic activity. Beyond macroeconomic functions, banks deliver essential financial services to individuals—from mortgage lending to personal credit—while simultaneously serving as the lifeblood for small business financing.

Interest rate fluctuations represent a critical determinant of bank stock valuations. When central banks implement rate cuts, the consequences for banking equities unfold through multiple interconnected channels. First, shrinking interest margins compress banks' profitability as the spread between deposit and lending rates narrows. Second, since interest rates establish the baseline for risk-free returns, their decline typically reduces investors'

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required equity returns—all else being equal, this should theoretically boost stock prices under traditional discounted cash flow valuation. Third, falling rates often trigger capital reallocation from fixed-income markets to equities, creating upward pressure on share prices.

China's recent monetary policy shifts offer compelling empirical evidence. In 2024, the People's Bank of China (PBOC) implemented successive rate reductions, driving corporate loan rates to record lows—3.57% for general business loans and 4.48% for small enterprise financing. The central bank further intensified its easing stance in September 2025 with a 50-basis-point reserve requirement ratio cut coupled with a 20-basis-point policy rate reduction, bringing the 7-day reverse repo rate down to 1.5%.

This research aims to analyze how interest rate adjustments affect banking operations and subsequent stock price movements, with particular attention to differential impacts between joint-stock and state-owned commercial banks. By examining these dynamics, the study seeks to enhance understanding of interest rate sensitivity in financial markets, ultimately contributing to more informed investment strategies and improved regulatory frameworks.

2 Literature review, theoretical mechanisms and research hypotheses

2.1 Literature review

The influence of interest rate fluctuations on stock prices has consistently remained a focal point of continuous research. A multitude of scholars have conducted extensive investigations. Bernanke's study indicates that interest rates hold an indispensable position within a country's monetary policy, exerting a significant impact on the nation's stock market [1]. Bernanke and Gentler propose that in the event of a severe inflationary situation, the economy will be severely affected, and thus, the country's interest rate-related policies will tend to be inclined towards effectively balancing the inflation level [2]. Financial markets, which play a pivotal role in monetary strategy, are subject to regulatory control by the People's Bank of China when their movements sway public inflation outlooks. According to Lu Rong's study, a closer look at the empirical data reveals a substantial impact that central bank interest rate alterations have on stock market [3]. In follow-up studies, researchers uncovered that when the primary goal of the interest rate policy is to manage inflation, companies often enjoy improved business outcomes within a benign monetary landscape. This, in turn, tends to bolster enterprise stock prices. Both domestic and international academics have applied various models to depict the direct hit that interest rate adjustments have on stock values. Qiu Mu Xin, for instance, employs theories like the investment substitution effect to elucidate the inverse relationship between interest rates and stock value fluctuations, analyzing the investors' perception of the returns on different assets, shifts in interest rate strategies, and the dynamics of market supply and demand [4]. Ma Zheng's study reveals that under the Loan Prime Rate (LPR) framework, when examining the Cumulative Average Abnormal Returns (CAAR), lower interest rates consistently outperform the average rate scenario. This finding underscores how interest rate hikes tend to drag down stock market performance, as evidenced by the stronger returns observed during periods of reduced rates [5]. Meanwhile, domestic and foreign scholars have found that there are numerous factors that indirectly affect stock prices. Wang Honggang's research shows that in the long-term economic operation, there are other factors influencing stock prices [6]. Yuan Xianhe's research indicates that when the interest rate reduction is less than investment expectations, investors will be more confident in stocks, leading to an increase in the demand for stocks and stock prices [7]. Liu Xi's research on this phenomenon through the mediation effect model and STR model illustrates the impact of investor sentiment on stock prices from the

perspective of investors [8]. Meng Can's research shows that the impact of interest rate changes on the stock market is not obvious in the short term but is more evident in the medium and long term [9]. Xuemei Xiang addressed the market's volatility by applying Marx's stock pricing model, revealing the negligible influence of rate adjustments on the stock market's short-term fluctuations [10]. While conventional economic theory suggests an inverse relationship between interest rates and stock prices, empirical studies have produced mixed results due to variations in research methodologies, evolving capital market conditions, and unaccounted macroeconomic variables. China's relatively young capital market, coupled with its unique interest rate policies, may further obscure this expected correlation. As China's stock market has matured over recent decades, academic research has continually adapted to examine the interplay between interest rate liberalization policies, market conditions, and equity price movements. The August 2019 implementation of the Loan Prime Rate (LPR) mechanism marked a significant milestone in China's interest rate marketization process. This study specifically investigates whether bank stocks exhibit the same inverse sensitivity to interest rate fluctuations as other equities, analyzing how rate changes affect the valuation of banking sector stocks.

2.2 Theoretical mechanisms

Lower interest rates bring down the return on risk-free assets in the market, which affects the level of expected return on equities, and lower interest rates reduce investors' expected return on equities (See Fig. 1). According to the CAPM model ($E(r_i) = R_f + \beta_{im}(Er_m) - R_f$), when a fall in interest rates leads to a fall in the risk-free rate of return Rf, E(ri) should also fall with the market risk premium E(rm) and the individual stock risk factor sub-betaim unchanged. According to the discounted cash flow model, under the assumption that the dividend payout of bank dividends remains constant, it is discounted according to the investor's required rate of return E(ri)for a given security. A decrease in the discount rate results in a rise in the net present value of the security, and the markup on the corresponding asset should rise. That is, share prices are negatively correlated with changes in interest rates.

Fig. 1. Connection between interest rates and stock price

Second, state-controlled banks, which are usually larger and have a more stable customer base, may rely more on low-cost demand deposits on the liability side and may have more long-term loans on the asset side. Joint-stock banks may rely more on market financing, have higher-cost liabilities, and may have more short-term loans or investments on their asset side. These structural differences can lead to different sensitivities to changes in interest rates. When interest rates fall, a bank's return on assets may fall more quickly, while the cost of liabilities adjusts more slowly, leading to a narrowing of net interest margins. However, state-controlled banks may have a stickier liability structure and a more pronounced lag in cost declines, resulting in a more severe narrowing of net interest margins, greater damage to profits, and more declines in share prices. In addition, the size and market position of state-controlled banks may make them more conservative in their interest rate risk management, leading to greater sensitivity to interest rate changes. Stable banks may be regarded as risk-averse assets, and when interest rates fall, investors may expect a decline in their profitability and switch to other high-yield assets, leading to a more pronounced fall in share prices. Joint-

stock banks, on the other hand, due to their business flexibility, may be able to adjust their business structure more quickly when interest rates fall, offsetting some of the negative impact.

2.3 Formulation of hypotheses

In summary, the following hypotheses are presented in this paper:

1. Falling interest rates will make bank stock prices rise.

2. State-controlled banks are more stable and more significantly affected by changes in interest rates than joint-stock banks.

3 Research design

3.1 Data sources and sample selection

In this study, a diverse set of A-share listed bank stocks were chosen as the focal point for analysis, spanning from 2020 to 2024. The financial metrics were meticulously sourced from the Invesco and CSMAR databases. To gauge the influence of interest rate fluctuations, this paper utilized the loan quoted market rate (LPR) data directly from the People's Bank of China's official website. Our sample includes both state-controlled institutions like the Industrial and Commercial Bank of China, Agricultural Bank of China, Bank of China, and Construction Bank, as well as prominent joint-stock banks such as China Merchants Bank, Industrial Bank, Bank of Communications, and CITIC Bank.

3.2 Model design and variable definition

In this paper, the change in interest rate-share price is used to measure the impact of interest rate changes on the share prices of different bank stocks. The specific model is as follows and the definition of variables are shown in Table 1.

$$Price = \beta_1 + (D_1\beta_2 + D_2\beta_3)interest + e \qquad (1)$$

Where price represents the price of the stock, interest is the interest rate change, D1, D2 are dummy variables, if the nature of the bank is a large state-owned bank, then D1 is 1, D2 is 0. e is the random error term. If the nature of the bank is a joint-stock bank, D1 is 0 and D2 is 1. Interest rate changes are obtained manually by the authors by checking the official website of the People's Bank of China. The specific process is as follows. Firstly, download the share prices of the above eight banks for 2020-2024, extract the information of daily share price increase and decrease changes, and perform a weighted average of them based on the market capitalisation at the beginning of 2020. Second, determine the time of interest rate changes announced on the People's Bank of China's official website as the window period. If the hypothesis of this paper is valid, the estimated coefficients of β2, β3 are significantly negative, i.e., a decrease in the interest rate leads to an increase in the stock price of bank shares.

Table 1. Definitions of key variables

typology	norm	instructions
explanatory variable	price 1	The share prices of the eight selected bank stocks rose and fell according to a market capitalisation-weighted average
	price 2	The share prices of the four selected state-owned banks rose and fell according to the market capitalisation-weighted average
	price 3	The share prices of the four selected joint-stock banks rose and fell according to the market capitalisation-weighted average
explanatory variable	index	Changes in the CSI 300 Index
	D1	Take 1 if it is a state-owned bank, otherwise take 0
	D2	1 if joint-stock bank, 0 otherwise
control variable	interest	Impact of changes in interest rates announced by the People's Bank of China

In this study, through the event study method, the window period of the People's Bank of China (PBOC) announcing the occurrence of the interest rate change event, 24 September 2024, is taken as the event date, and the set event date is (t), the event window period is (t-2, t+2), and the estimated window is (t-210, t-11). The normal return of the stock price during the event window is predicted by the change in the CSI 300 index during the estimated window. The abnormal return is calculated by subtracting the normal return from the actual return. The cumulative abnormal return is derived by summing the individual abnormal returns.

4 Analysis of empirical results

4.1 Descriptive statistics

The descriptive statistics of the principal variables are presented. Subsequently, the abnormal return is derived by subtracting the normal return from the actual return, and the cumulative abnormal return is obtained through the summation of the abnormal returns. As per Table 2, the average daily increase of bank stocks amounts to 0.02612% with a median of 0.01163%. For state-owned banks, the average daily gain is 0.02742% and the median is 0.00003%. In the case of joint-stock banks, the average daily gain is 0.02228% and the median is -0.04011%. The average daily gain of the CSI 300 index is 0.00443% and the median is -0.02000%.

Table 2. Descriptive statistics of the main variables

variant	Average value	(statistics) standard deviation	Q1	median	Q3
price 1	0.02612 %	1.04607 %	-0.54015 %	0.01163 %	0.54960 %
price 2	0.02742 %	1.02027 %	-0.45220 %	0.00003 %	0.49768 %
price 3	0.02228 %	1.43752 %	-0.78700 %	-0.04011 %	0.75141 %
inde x	0.00443 %	1.23422 %	-0.66000 %	-0.02000 %	0.65000 %

4.2 Results of regression analyses

Table 3 reports the results of the test of hypothesis 2. The 24th of September is set as the event window day. The event window period is (t-2, t+2) and the estimation window is (t-210, t-11). The normal return of the bank stock index is analysed through the SSE CSI 300 index. During the estimation window, alpha can be obtained as 0.0008 and beta as 0.0826. this is used to predict the normal return of bank stock price change during the event window based on CSI 300 index. Comparing the actual return, the abnormal return can be obtained, and the abnormal return is accrued as 9.21%. Lower interest rates cause bank stock prices to rise.

Table 3. Impact of interest rate changes on bank share prices

alpha	0.0008	Predict normal return	0.43%	0.20%	0.44%	0.11%	0.09%	CAR
beta	0.0826	AR	2.28%	0.86%	4.30%	1.26%	0.51%	9.21%

In order to test hypothesis 3, this study analyses the change in the share price of state-controlled banks and joint-stock banks as a result of lower interest rates, respectively. Table 4 Table 5 reports the test results of hypothesis 3 of the hypothesis. The 24th of September is set as the event window date. The event window period is (t-2, t+2) and the estimation window is (t-210, t-11). The weighted average normal return of state-controlled banks is analysed through the SSE CSI 300 index. During the estimation window, an alpha of 0.0009 and a beta of -0.0552 can be obtained. this is used to predict the normal return of bank stock price changes during the event window based on the CSI 300 index. Comparing the actual return, the abnormal return can be obtained, and the abnormal return is accrued as 9.42%. The weighted average normal return of shares is analysed through the SSE CSI 300 index. During the estimation window, alpha can be obtained as 0.0007 and beta as 0.4894. This is used to predict the normal return of bank stock price change during the event window based on CSI 300 index. Comparing the actual return, the abnormal return can be obtained, and the abnormal return is accrued as 8.49%. The comparative analysis in Table 4 and Table 5 can verify Hypothesis 3 that lower interest rates have a more pronounced degree of impact on state-controlled banks.

Table 4. Effect of interest rates on share prices of state-controlled banks

alpha	0.0009	Predict normal return	-0.14 %	0.01%	-0.15%	0.07%	0.08%	CAR
beta	-0.0552	AR	2.37%	0.61%	4.69%	1.21%	0.53%	9.42%

Table 5. Impact of interest rate changes on share prices of joint stock banks

alpha	0.0007	Predict normal return	2.14 %	0.79%	2.19%	0.25%	0.15%	CAR
beta	0.4894	AR	1.98 %	1.59%	3.11%	1.38%	0.42%	8.49%

5 Conclusions

As the key infrastructure of the modern financial system, the banking sector assumes the core function of a hub for the supply and demand of capital. Its stable income model based on deposit and loan spreads makes it a core allocation for high dividend strategies in the capital market. Interest rates, as the benchmark variable for capital pricing, have multiple transmission effects on the valuation of commercial banks. This paper examines the extent to which different bank stocks react to changes in interest rates during the current monetary policy cycle of sustained easing in major global economies. This study applies the event study method to capture the market response characteristics during the policy window period, focusing on measuring the abnormal return (AR) and cumulative abnormal return (CAR) triggered by the interest rate cut event, and then quantifies the price sensitivity differences of banks with different ownership attributes, providing new empirical evidence to support the price formation mechanism of financial assets. As a result of the study, interest rate changes have a higher degree of impact on the share prices of state-owned bank stocks, while joint-stock banks are affected to a lesser extent relative to state-controlled banks.

This study has the following shortcomings. On the one hand, the representativeness of the sample selection is questionable, and this study does not cover urban or agricultural banks, which may lead to limited extrapolation of the findings. It is necessary to explain the basis of sample selection such as market share, data availability, or group robustness test. On the other hand, the model setup is oversimplified. There exist many reasons affecting share prices, but the regression model only includes interest rate changes and bank type dummy variables without controlling for other key variables. The omission of variables may lead to estimation bias. In addition, robustness tests are missing, and key tests are not performed in this study.

Author contribution

All the authors contributed equally, and their names were listed in alphabetical order.

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