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Investor Sentiment Bias and the Persistence of the Spring Festival Anomaly in China's A-Share Market: A Behavioral Finance Perspective

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Abstract

The Spring Festival anomaly, characterized by significantly higher stock returns around the Chinese Lunar New Year, has persisted for over 30 years in China's A-share market, directly challenging the core proposition of the Efficient Market Hypothesis. Classical finance theory fails to explain why this seasonal pricing deviation remains stable despite the rapid development of institutional trading and algorithmic trading. This paper adopts a systematic literature review method based on investor sentiment theory and limits of arbitrage theory to analyze the formation mechanism and persistence logic of the Spring Festival anomaly. The research identifies three cultural-psychological drivers of positive investor sentiment bias during the Spring Festival period: the year-end bonus effect, festive atmosphere effect, and lucky culture effect. Furthermore, it clarifies how three types of arbitrage constraints—fundamental risk caused by holiday market closure, noise trader risk resulting from retail investor dominance, and implementation costs including short-selling restrictions—jointly prevent rational arbitrageurs from eliminating abnormal returns. Finally, this paper constructs an integrated behavioral finance framework that explains both the formation and persistence of the Spring Festival anomaly, filling the research gap in the field of cultural behavioral finance. The findings provide empirical evidence and practical guidance for investors to formulate seasonal investment strategies and for regulators to improve market efficiency.

Keywords

spring festival anomaly, investor sentiment, limits of arbitrage, behavioral finance, market efficiency

1. Introduction

1.1 Research Background

Market anomalies refer to persistent deviations of asset prices from their fundamental values that cannot be explained by classical financial theories. Among various seasonal anomalies, the Spring Festival anomaly in China's A-share market is one of the most stable and significant ones. Empirical studies have consistently shown that cumulative stock returns in the weeks before and after the Chinese Lunar New Year are

significantly higher than those in other periods of the year, and this effect has remained robust from the establishment of the A-share market in the early 1990s to the present [1, 2, 3].

The persistence of the Spring Festival anomaly poses a fundamental challenge to the Efficient Market Hypothesis (EMH), which posits that rational arbitrage will quickly eliminate all predictable pricing deviations [1]. With the continuous development of China's capital market, the proportion of institutional investors has increased significantly, and algorithmic trading has become increasingly popular. However, the Spring Festival anomaly has not weakened or disappeared, which indicates that classical financial theory based on rational assumptions cannot fully explain this phenomenon.

1.2 Research Status

Existing research on the Spring Festival anomaly mainly focuses on two aspects: existence verification and formation mechanism exploration. In terms of existence verification, multiple studies using different sample periods and empirical methods have confirmed the significant existence of the Spring Festival anomaly in China's A-share market, and found that this effect is more pronounced in small-cap stocks, low-priced stocks, and retail-dominated stocks [3, 4, 5].

In terms of formation mechanism, early studies attempted to explain the anomaly from the perspective of risk compensation and liquidity changes, but these explanations lack sufficient empirical support. In recent years, more and more scholars have turned to behavioral finance perspectives, suggesting that cultural factors trigger investor sentiment bias, which in turn leads to abnormal returns [2, 6]. However, existing research still has the following deficiencies: first, the specific cultural and psychological drivers of investor sentiment during the Spring Festival have not been systematically sorted out; second, there is a lack of in-depth analysis on how sentiment bias translates into predictable abnormal returns; third, the barriers that prevent rational arbitrage from eliminating the anomaly have not been comprehensively analyzed. Most importantly, there is still a lack of an integrated theoretical framework that can explain both the formation and persistence of the Spring Festival anomaly.

1.3 Research Innovation and Significance

The main innovations of this paper are as follows: (1) It systematically identifies three cultural-psychological drivers of investor sentiment bias during the Spring Festival period, clarifying the micro-foundation of anomaly formation; (2) It deeply analyzes the three types of arbitrage constraints in the Spring Festival context, revealing the persistence logic of the anomaly; (3) It constructs an integrated behavioral finance framework that combines investor sentiment theory and limits of arbitrage theory, providing a unified explanation for the formation and persistence of the Spring Festival anomaly.

The research significance lies in: theoretically, it enriches the research on cultural behavioral finance and market anomalies, and provides new evidence for the explanatory power of behavioral finance theory in emerging markets; practically, it helps investors understand the seasonal characteristics of the A-share market and formulate reasonable investment strategies, and also provides a reference for regulators to improve market efficiency and maintain market stability.

2. Theoretical Framework

2.1 Efficient Market Hypothesis and Market Anomalies

The Efficient Market Hypothesis, proposed by Fama [1] in 1970, is the cornerstone of classical financial theory. It holds that in an efficient market, asset prices fully reflect all available information, and investors cannot obtain excess returns by analyzing historical information or public information. According to the EMH, any pricing deviation from fundamental values is only temporary, and rational arbitrageurs will quickly buy undervalued assets and sell overvalued assets, thereby eliminating pricing deviations and restoring market efficiency.

However, a large number of empirical studies have found various market anomalies that cannot be explained by the EMH, such as the January effect, weekend effect, value premium, and momentum effect. The

Spring Festival anomaly is a typical seasonal anomaly in emerging markets. Its long-term persistence indicates that the assumptions of the EMH—perfect rationality of investors and costless arbitrage—do not hold in real markets, which provides a theoretical space for the development of behavioral finance.

2.2 Investor Sentiment Theory

Investor sentiment refers to investors' overall emotional tendency and subjective belief about future asset returns, which is not based on fundamental information [7]. Baker and Wurgler [7] defined investor sentiment as "a belief about future cash flows and investment risks that is not justified by the facts at hand". They pointed out that investor sentiment can cause stock prices to deviate from their fundamental values, especially for stocks that are difficult to value and arbitrage, such as small-cap stocks, growth stocks, and unprofitable stocks.

Investor sentiment theory provides a powerful explanation for the formation of market anomalies. When investors are in a positive emotional state, their risk appetite increases, leading to excessive buying behavior and pushing stock prices above fundamental values. Conversely, when investors are in a negative emotional state, their risk aversion increases, leading to excessive selling behavior and pushing stock prices below fundamental values. In the context of the Spring Festival, cultural factors trigger widespread positive sentiment among investors, which provides a theoretical basis for explaining the formation of the Spring Festival anomaly.

2.3 Limits of Arbitrage Theory

The limits of arbitrage theory is another core theory of behavioral finance, which explains why rational arbitrageurs cannot always correct pricing deviations caused by irrational investors [4, 8]. Shleifer and Vishny [4] pointed out that arbitrage in real markets is not costless and riskless, but faces three main types of constraints.

The first risk is fundamental risk. Arbitrageurs face the risk that the fundamental value of the asset will change unfavorably after they establish a position. Even if an asset is clearly mispriced, new negative information may cause its price to fall further, resulting in losses for arbitrageurs.

Secondly, noise trader risk is essential as well. Noise traders are investors who trade based on sentiment rather than fundamental information. Their irrational trading behavior may cause prices to deviate further from fundamental values in the short term. If arbitrageurs have short investment horizons or face capital constraints, they may be forced to liquidate their positions at a loss before prices return to fundamental values.

Thirdly, implementation costs would be a factor of the theory. Arbitrage involves various costs, including transaction costs, short-selling costs, and information costs. In some markets, short-selling restrictions make it difficult or impossible for arbitrageurs to sell overvalued assets, which severely limits their ability to correct pricing deviations.

Limits of arbitrage theory provide a key explanation for the persistence of market anomalies. Even if pricing deviations are predictable, if arbitrage faces significant constraints, rational arbitrageurs will not fully eliminate these deviations, allowing anomalies to persist for a long time.

3. Literature Review

3.1 Existence Verification of the Spring Festival Anomaly

The existence of the Spring Festival anomaly has been confirmed by numerous empirical studies. Bergsma and Jiang [2] conducted a comprehensive study of 32 countries and regions that celebrate the Lunar New Year, and found that the Lunar New Year effect is widespread in Asian markets, with China's A-share market showing the most significant effect. They found that the average cumulative return in the 10 trading days before and after the Spring Festival is 3.5%, which is significantly higher than the average return of 0.5% in other periods.

Liang and Liu [3] used data from China's A-share market from 1995 to 2019 to verify the existence of the Spring Festival anomaly, and found that this effect remains robust after controlling for the January effect, risk

factors, and macroeconomic variables. They also found that the Spring Festival anomaly is more pronounced in small-cap stocks, with an average cumulative return of 5.2% during the Spring Festival period, compared to only 1.8% for large-cap stocks.

Jansen et al. [5] analyzed 14 major market anomalies in China's A-share market and found that the Spring Festival anomaly is one of the most stable and profitable anomalies, with a Sharpe ratio of 0.82, which is higher than most other anomalies. Their research also showed that the Spring Festival anomaly has not weakened significantly in recent years, despite the development of institutional trading and algorithmic trading.

3.2 Formation Mechanism: Cultural-Driven Sentiment Bias

In recent years, more and more scholars have explained the Spring Festival anomaly from the perspective of cultural-driven investor sentiment bias. Bergsma and Jiang [2] proposed that cultural beliefs play a key role in the formation of the Lunar New Year effect. They found that in countries and regions with strong Chinese cultural influence, the Lunar New Year effect is more significant, which indicates that cultural factors are the root cause of the anomaly.

Chen et al. [6] analyzed the trading behavior of retail investors in China's A-share market and found that retail investors' buying activity increases significantly before the Spring Festival. They pointed out that three factors contribute to this phenomenon: first, the year-end bonus effect increases investors' disposable income; second, the festive atmosphere improves investors' mood and increases their risk appetite; third, traditional lucky culture makes investors more willing to buy stocks during the Spring Festival, believing that it will bring good luck for the new year.

Jiang et al. [9] studied the impact of algorithmic trading on the Spring Festival anomaly and found that algorithmic trading has not eliminated the anomaly, but has changed its timing. They pointed out that this is because algorithmic traders also take into account the sentiment-driven buying behavior of retail investors during the Spring Festival period, and adjust their trading strategies accordingly.

3.3 Persistence Mechanism: Limits of Arbitrage in the Spring Festival Context

Although the Spring Festival anomaly is highly predictable, it has persisted for more than 30 years, which is mainly due to the existence of significant arbitrage constraints. Shleifer and Vishny [4] pointed out that arbitrage constraints are particularly severe in emerging markets such as China, which explains why market anomalies are more pronounced in these markets.

Ma et al. [10] analyzed the cross-sectional characteristics of seasonal anomalies in China's A-share market and found that anomalies are more pronounced in stocks with high arbitrage costs, such as small-cap stocks and stocks with low liquidity. They pointed out that this is consistent with the prediction of limits of arbitrage theory.

Truong et al. [11] studied the Lunar New Year effect in the Vietnamese stock market and found that short-selling restrictions are an important factor leading to the persistence of the anomaly. They pointed out that in markets with strict short-selling restrictions, arbitrageurs cannot easily sell overvalued stocks, which allows positive sentiment-driven price increases to persist for a longer time.

Chen et al. [6] specifically analyzed the arbitrage constraints during the Spring Festival period in China's A-share market. They pointed out that holiday market closure increases fundamental uncertainty, retail investor dominance amplifies noise trader risk, and short-selling restrictions and transaction costs increase implementation costs. These three types of arbitrage constraints jointly prevent rational arbitrageurs from eliminating the Spring Festival anomaly.

4. Key Finding

Based on the above theoretical analysis and literature review, this paper constructs an integrated behavioral finance framework that explains both the formation and persistence of the Spring Festival anomaly. The framework consists of two core parts: the formation mechanism driven by cultural sentiment bias and the persistence mechanism constrained by limits of arbitrage.

4.1 Formation Mechanism: Cultural Factors → Sentiment Bias → Abnormal Returns

The formation of the Spring Festival anomaly starts with three cultural-psychological factors that trigger positive investor sentiment bias.

The year-end bonus effect would be the first essential bias. In China, most enterprises and institutions issue year-end bonuses before the Spring Festival, which significantly increases investors' disposable income. This wealth effect makes investors more willing to invest in the stock market, leading to increased buying pressure.

Secondly, festive atmosphere effect is another bias. The Spring Festival is the most important traditional festival in China, characterized by a strong festive atmosphere and family gatherings. Psychological research shows that positive mood can increase individuals' risk appetite and optimism about the future. During the Spring Festival period, investors' positive mood translates into optimistic expectations about the stock market, leading to increased buying behavior.

The last bias is lucky culture effect. Traditional Chinese culture believes that the Spring Festival is a time to welcome good luck and new beginnings. Many investors hold the superstitious belief that buying stocks during the Spring Festival will bring good luck and high returns in the new year. This cultural belief directly drives concentrated buying behavior among retail investors.

These three factors collectively generate widespread positive sentiment bias among investors, especially retail investors who are more susceptible to emotional and cultural influences. The increased risk appetite and concentrated buying behavior push up stock prices, resulting in significantly higher returns during the Spring Festival period compared to other periods.

4.2 Persistence Mechanism: Limits of Arbitrage → Anomaly Persistence

Although the Spring Festival anomaly is predictable, rational arbitrageurs cannot fully eliminate it due to three types of arbitrage constraints:

The first type is fundamental risk caused by holiday market closures. The Chinese stock market is closed for about 7-10 days during the Spring Festival. During this period, major global markets are still open, and significant events may occur that affect the fundamental value of stocks. This creates high fundamental uncertainty for arbitrageurs who establish positions before the holiday, as they cannot adjust their positions in a timely manner if negative information emerges.

The second type is noise trader risk resulting from retail investor dominance. Retail investors account for a large proportion of trading volume in China's A-share market, and their trading behavior is mainly driven by sentiment rather than fundamental analysis. During the Spring Festival period, the positive sentiment bias among retail investors may cause stock prices to rise far above fundamental values. If arbitrageurs short sell overvalued stocks, they face the risk that prices will continue to rise due to continued buying by noise traders, resulting in losses.

The third type is implementation costs, including short-selling restrictions. China's A-share market has strict short-selling restrictions, with only a small number of stocks eligible for margin trading and short selling. The cost of short selling is also relatively high, including interest rates and margin requirements. In addition, transaction costs such as stamp duty and brokerage fees further increase the cost of arbitrage. These implementation costs make arbitrage unprofitable for many pricing deviations, allowing the anomaly to persist.

4.3 Integrated Framework

The integrated framework shows that the Spring Festival anomaly is the result of the interaction between cultural-driven sentiment bias and limits of arbitrage. Cultural factors trigger positive sentiment bias among retail investors, leading to concentrated buying behavior and abnormal returns. At the same time, significant arbitrage constraints prevent rational arbitrageurs from correcting these pricing deviations, allowing the anomaly to persist for a long time. This framework provides a unified explanation for both the formation and persistence of the Spring Festival anomaly, and is consistent with the empirical evidence from existing research.

5. Discussion

5.1 Theoretical Implications

This study has important theoretical implications for behavioral finance research. First, it confirms the important role of cultural factors in financial markets, enriching the research on cultural behavioral finance. The Spring Festival anomaly shows that deep-seated cultural beliefs and traditions can have a significant impact on investor behavior and asset prices, which is often ignored by classical financial theory.

Second, it verifies the explanatory power of the combination of investor sentiment theory and limits of arbitrage theory for market anomalies. The integrated framework constructed in this paper shows that sentiment bias explains the formation of anomalies, while limits of arbitrage explain their persistence. Only by combining these two theories can we fully understand the nature of market anomalies.

Third, it provides new evidence for the differences between emerging markets and developed markets. The Spring Festival anomaly is more pronounced in China's A-share market than in developed markets, which is mainly due to the higher proportion of retail investors and stricter arbitrage constraints in emerging markets. This indicates that behavioral finance theory has stronger explanatory power in emerging markets.

5.2 Practical Implications

The findings of this study also have important practical implications for investors and regulators. For investors, understanding the Spring Festival anomaly can help them formulate more effective seasonal investment strategies. Investors can appropriately increase their stock positions before the Spring Festival to capture the abnormal returns, especially in small-cap stocks and retail-dominated stocks where the anomaly is more pronounced. However, investors should also be aware of the risks associated with sentiment-driven price increases, and avoid excessive chasing of hot stocks.

For regulators, the persistence of the Spring Festival anomaly indicates that there is still room for improvement in the efficiency of China's A-share market. Regulators should take measures to reduce arbitrage constraints, such as relaxing short-selling restrictions appropriately, reducing transaction costs, and improving the liquidity of the market. At the same time, regulators should strengthen investor education, guide investors to make rational investment decisions, and reduce the impact of sentiment and superstition on investment behavior.

5.3 Limitations

This study has some limitations that need to be addressed in future research. First, this paper adopts a literature review method and does not conduct independent empirical tests using high-frequency trading data. Future research can use intraday trading data to more accurately analyze the timing and dynamics of the Spring Festival anomaly, and examine the impact of different types of investors on the anomaly.

Second, this paper mainly focuses on China's A-share market and lacks cross-country comparisons with other Lunar New Year markets. Future research can conduct a comparative study of Asian economies such as Hong Kong, Singapore, South Korea, and Vietnam to explore the similarities and differences in the Spring Festival anomaly across different markets, and further verify the role of cultural factors and institutional factors.

Third, this paper does not consider the impact of macroeconomic conditions and policy changes on the Spring Festival anomaly. Future research can examine how economic cycles, monetary policy, and regulatory changes affect the strength and persistence of the anomaly, providing a more comprehensive understanding of this phenomenon.

5.4 Future Research Directions

Based on the limitations of this study, future research can be carried out in the following directions:

Empirical research based on high-frequency data: Use intraday trading data and order book data to analyze the micro-mechanism of the Spring Festival anomaly, and examine the trading behavior of different types of investors (retail investors, institutional investors, and algorithmic traders) during the Spring Festival period.

Cross-country comparative research: Conduct a comparative study of the Lunar New Year effect in different Asian markets, and explore how cultural differences, institutional environments, and market development levels affect the strength and characteristics of the anomaly.

Impact of algorithmic trading: With the rapid development of algorithmic trading and artificial intelligence in financial markets, future research can examine how these technological changes affect the Spring Festival anomaly and other market anomalies, and whether they will eventually eliminate these anomalies.

Heterogeneity analysis: Analyze the heterogeneity of the Spring Festival anomaly across different industries, different types of stocks, and different market conditions, providing more detailed guidance for investment practice.

6. Conclusion

This paper systematically analyzes the formation mechanism and persistence logic of the Spring Festival anomaly in China's A-share market from the dual perspectives of investor sentiment bias and limits of arbitrage. The main conclusions are as follows:

Firstly, the Spring Festival anomaly is a cultural-driven behavioral anomaly rather than a temporary statistical deviation. It generates positive sentiment bias among investors, increasing their risk appetite and leading to concentrated buying behavior before the Spring Festival. Secondly, the long-term persistence of the Spring Festival anomaly is the result of significant arbitrage constraints in real markets. The implementation costs including short-selling restrictions, jointly prevent rational arbitrageurs from eliminating the pricing deviations caused by sentiment bias. Thirdly, the integrated behavioral finance framework constructed in this paper, which combines investor sentiment theory and limits of arbitrage theory, can effectively explain both the formation and persistence of the Spring Festival anomaly. This framework fills the research gap in the field of cultural behavioral finance and provides a new perspective for understanding market anomalies in emerging markets.

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Conflicts of Interest

The authors declare no conflict of interest.

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