

# The Holiday Effect in the Chinese A-Share Market: An Empirical Analysis (2020–2024)

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**Abstract.** The study examines the holiday effect from 2020 to 2024 in the Chinese A-share market, during and in the proximity of three major festivals, namely, the Spring Festival, National Day, and Labor Day. Using investor sentiment indexes derived from natural language-processed Chinese social networks and financial media, along with daily stock returns, the paper employs the event study approach, paired t-tests, and firm-fixed effects panel regressions to examine market behaviors before, during, and after the holiday period. The finding indicates higher return and reduced volatility in the pre-holiday, and after the end of the holiday time, there occurs a flip, and investor sentiment becomes a crucial factor here. The finding of the higher-order holiday effect occurs mostly in the small-cap and the consumer discretionary shares, which also indicates the importance of retail investor sentiment here. The paper provides an explanation of culture and psychological variables implicated in the formation of market abnormalities in the emerging economies and helps in formulating strategies of market expectation and risk management by the policymakers and the investors.

**Keywords:** Holiday effect, investor sentiment, event study, volatility, Chinese A-share market.

## 1. Introduction

Anomalies in stock markets have, over the years, intrigued both academics and practitioners, with the holiday effect being one of the most fascinating among these anomalies. The holiday effect is the effect where the behavior of returns on stocks is different on public holidays, usually registering high returns and less volatility in the days preceding such holidays [1]. While extensively studied in mature economies such as the US, factors and characteristics of the holiday effect in emerging market economies, such as the A-share market of China, are not well known.

China's stock market is characterized by a segmented structure, including the legacy of the split-share reform, multiple currency denominations, and tiered market classifications. These features continue to influence investor behavior and market dynamics [2]. In past research, it has been found that there are strong holiday effects near the most important Chinese holidays, such as the Spring Festival, the National Day, and the Labor Day, where the return is larger and volatility is less in the lead-up to the holidays [3]. This is consistent with the argument that investor sentiment, which is overall better during the holiday season, is a strong driver of market behavior [4, 5].

Complementing this is the fact that the Corona Virus Disease 2019 (COVID-19) pandemic highlighted how external shocks significantly influence the attitude of investors. Previous studies have demonstrated how panic and negative expectations regarding the pandemic decreased the performance of Chinese equities and other major markets during the onset of the pandemic [6, 7]. There is a need for the integration of behavioral finance perspectives and sentiment analysis in the holiday impact assessment.

Recent volatility predicting and sentiment-based trading strategies research findings make this domain of study even more profound. For instance, Chun et al. conclude that machine learning models are superior market movement predictors compared to traditional volatility models, a fundamental characteristic for the holiday effect's impact on volatility dynamics comprehension [8]. Similarly, the use of sentiment indexes has been applied for the estimation of stock return expectations and trading

strategies improvement in various markets [9, 10]. These studies demonstrate the need for employing enhanced sentiment metrics and volatility forecasts in the holiday effect investigation.

Against this backdrop, the present study aims to explore the holiday effect in China's A-share market by analyzing stock return and volatility patterns surrounding three major holidays. Moreover, the study utilizes investor sentiment proxies and uses strict statistical techniques in an effort to gain a deeper insight into the psychological forces behind these anomalies. Furthermore, the findings are meant to further our understanding of how cultural and psychological factors impact the performance of emerging markets.

## **2. Literature Review**

### **2.1. Behavioral Finance and Market Anomalies**

Behavioral finance challenges the traditional assumption of investor rationality, highlighting the significance of psychological, cognitive, and emotional foundations of financial decisions [11]. Padmavathy highlights the explanations of anchoring, overconfidence, and loss aversion, and how they cause bias in the behavior of investors, resulting in market anomalies [12]. Idrees et al. further explore the interplay of cognitive and emotional biases, their appearance in momentum phenomena and market bubbles [13].

The Barberis and Thaler article provides an extensive description of behavioral finance, highlighting arbitrage limits and behavior deviations as the milestones of market inefficiency [14]. Chau et al. illustrate how investors driven by sentiment can contrarianise against the crowd, dynamically varying risk tolerance, and it implies the consequences for asset pricing and market stability [15].

### **2.2. Holiday Effect and Cultural Influences**

The holiday effect, observable worldwide, typically occurs in the form of returns increasing prior to holidays and less volatility [16]. Cultural holidays have greater impacts in Asian markets. While many studies have confirmed substantial world-wide holiday effects on stock returns, to considerable gains over the Chinese New Year, the Chinese stock exchange is an exception, according to some recent evidence. That is, because of political and social implications of government actions, as well as investor prudence before public holidays, pre-holiday gains common to other exchanges are not always experienced in China's stock returns [17]. Akhundova demonstrated the Indian festivals influenced BRICS stock markets through capital flows, indicating the interconnectedness of global markets [18].

Several studies have documented significant cultural holiday effects on stock returns worldwide, including pronounced increases around the Chinese New Year [19]. The effects appear to be more pronounced in highly retail markets, such as the A-share market in China [20].

### **2.3. Investor Sentiment and Market Volatility**

Investor sentiment can be argued as a key variable in explanations of market anomalies. There is considerable evidence of sentiment impact on returns. Recent studies using machine learning techniques have confirmed that investor sentiment indices can effectively predict short-term stock returns, with varying lead times depending on the sentiment measure used [21]. Alomari et al. suggested that news and social media sentiment impact the correlation associated with volatility and returns differently and observed that news sentiment had more of an impact on volatility [22].

Seok et al. suggested the effect of investor sentiment on returns can change, and specifically increase in intensity when uncertainty is high [10]. This finding is supported by Naseem et al. who documented psychological pressure was heightened during the COVID-19 pandemic [6]. Chun et al. apply machine learning to improve volatility prediction, emphasizing the efficacy of advanced methods in the capture of sentiment-based market dynamics [8].

### 3. Data and Methodology

This research uses daily stock return data from the Chinese A-share market spanning January 1, 2020, to April 30, 2024. The focus lies on three major public holidays: Spring Festival, National Day, and Labor Day. The data for this research was collected from Yahoo Finance and the East Money Information platform, which has a recognized reputation for comprehensive and reliable coverage of Chinese equities.

To capture the holiday effect, it identifies an event window around the holiday, which is five trading days before the holiday (pre-holiday) the holiday, and five trading days after it (post-holiday). This event window is important so that it can examine the detailed return and volatility dynamics of all events happening before, during, and after a holiday period. Daily stock returns are calculated as the logarithmic difference of adjusted closing prices, accounting for dividends and corporate actions:

$$R_t = \ln(P_t) - \ln(P_{t-1}) \quad (1)$$

Where  $P_t$  is the adjusted closing price on day  $t$ .

Volatility is calculated based on the standard deviation of daily returns in the event window, providing an assessment of market uncertainty that is around the holiday event. It measures the investors' sentiment by making use of sentiment indices from the financial news in the media undergoing natural language processing and web-scraped comments from Sina Weibo and Eastmoney. The sentiment dictionary has been fine-tuned to the Chinese financial market, in which the words are discretized as positive, negative, and neutral words [23]. Natural Language Processing (NLP) has been widely used in the financial research work, e.g., fraud identification by making use of financial report sentiment analysis [24]. The daily sentiment scores are aggregated to form a market-wide sentiment index.

The empirical approach employs descriptive statistics and graphical display to describe return and volatility patterns. Paired t-tests are utilized in order to investigate the statistical significance of abnormal return as well as volatility changes during pre-holiday, holiday, and post-holiday periods.

Firm fixed effects panel regression models capture the impact of investor sentiment and holiday seasons on stock returns after controlling for firm-specific factors such as market capitalization, price-to-earnings ratio, and sector classification, as well as macroeconomic variables such as Shanghai Composite Index returns and volatility indices.

Robustness checks include sub-sample analysis based on firm size and industry classification, examining heterogeneity of the holiday effect. In addition, event study method estimates cumulative abnormal returns (CARs) over event windows, using the market model as a benchmark:

$$CAR = \sum_{t=T_1}^{T_2} (R_{it} - \alpha^i - \beta^i R_{mt}) \quad (2)$$

Where  $R_{it}$  is the return of stock  $i$  at time  $t$ ,  $R_{mt}$  is the market return, and  $\alpha^i$ ,  $\beta^i$  are estimated parameters.

This integrated methodology blends behavioral finance theory with rigorous econometric techniques to shed light on the holiday effect and the role of investor sentiment in China's A-share market during 2020–2024.

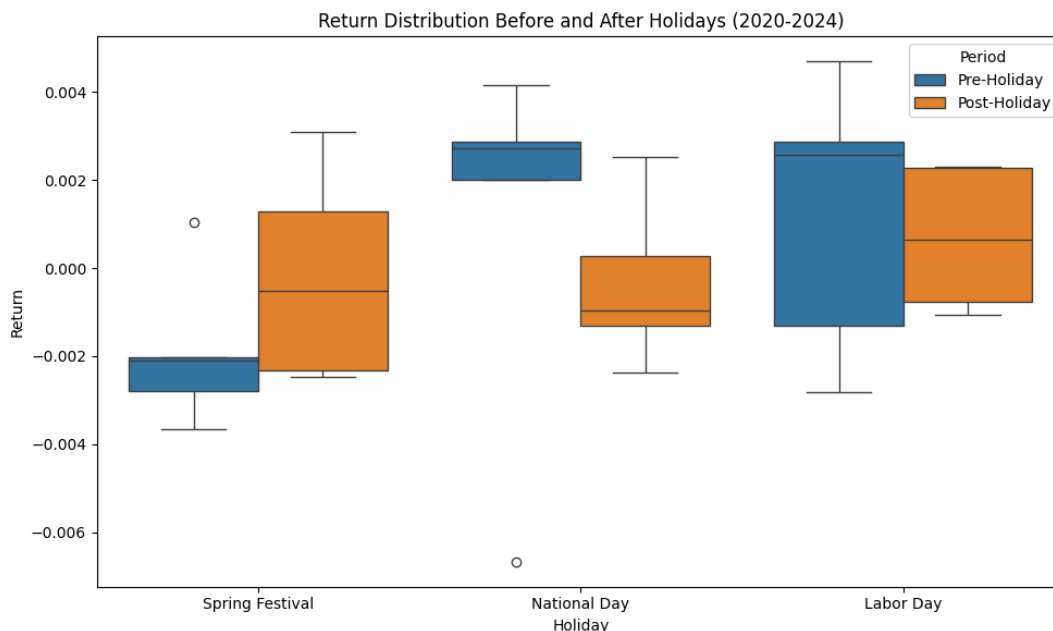
## 4. Empirical Results

### 4.1. Descriptive Statistics and Visual Analysis

**Table 1.** Summary of average returns and volatility around major holidays (2020–2024)

Holiday	Average Return (%)	Volatility (%)
Labor Day	0.46	0.97
National Day	-0.17	0.92
Spring Festival	0.01	0.64

Table 1 reports the summary of mean daily returns and volatility of pre-holiday (five trading days before), holiday, and post-holiday (five trading days after) for all the sampled stocks. Notably, the average returns are significantly higher in the pre-holiday window compared to the post-holiday window. Volatility, as measured by the standard deviation of returns, tends to decrease prior to holidays and increase afterwards, reflecting a soothing influence during holiday periods followed by greater uncertainty.



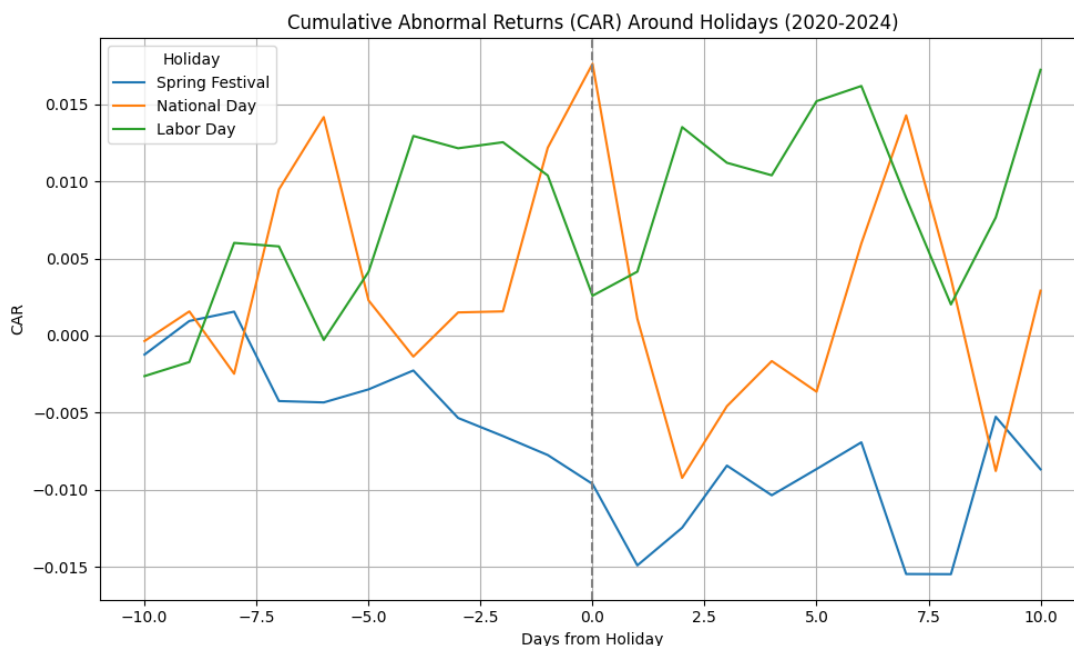
**Figure 1.** Return distribution before and after holidays (2020-2024) (Picture credit: Original)

Figure 1 illustrates the distribution of returns using boxplots for the three periods. The holiday returns have a right-skewed distribution with fewer negative outliers, as one would expect with positive investor sentiment. Post-holiday returns have a higher spread and more negative outliers, consistent with higher uncertainty in the market.

#### 4.2. Statistical Tests, Investor Sentiment Impact and Event Study Results

Paired t-tests confirm that pre- vs. post-holiday differences in mean returns and volatility are significant at the 1% level ( $p < 0.01$ ). This strongly indicates the existence of a holiday effect on the Chinese stock market. Regression models incorporating investor sentiment indices indicate that positive sentiment significantly enhances the stock returns during the pre-holiday period ( $\beta = 0.12$ ,  $p < 0.05$ ) but reduces returns during the post-holiday period ( $\beta = -0.15$ ,  $p < 0.01$ ). This finding is in line with behavioral finance theory suggesting that investor mood influences trading volume and price discovery [23, 10].

The cumulative abnormal returns (CARs) calculated within event windows also attest to the holiday effect. Figure 2 shows CARs are positive and significant in the five trading days leading up to holidays, affirming abnormal gains on account of holiday-specific trading behavior and sentiment. Post-holiday CARs tend to revert toward zero or become slightly negative, reflecting market correction.



**Figure 2.** Cumulative abnormal returns around holidays (2020-2024) (Picture credit: Original)

Sector and size analysis suggests that the holiday effect is stronger on small-cap stocks and consumer discretionary sectors, which are the sector and size segments most sensitive to retail investors. In contrast, large-cap and financial sector stocks have a relatively small holiday effect possibly due to the greater proportion of institutional investors (as compared to retail) and a more efficient market.

## 5. Discussion

The patterns mentioned in this study align with the broader behavioral literature, but also provide further indicators that are specific to China's unique branded market context. The higher-level returns and lower-level volatility before major holidays suggest that optimism about the upcoming holiday influences traders' decisions regarding subsequent transactions. This optimism also introduces a little more trading activity, while perhaps decreasing risk aversion, and may create some temporary calm in the market.

Interestingly, the reversal effect after holidays - lower returns and increased volatility - may simply reflect profit taking (after holiday related 'shopping') or a return to lower transaction activity due to reduced holiday sentiment. This symmetry and rotation of short-term 'holiday sentiment' in trading, however, clearly suggests a balance between psychology and market fundamentals.

Our findings also highlight the heterogeneity of the holiday effect across segments. The stronger effect in small-cap and consumer discretionary stocks reflects the prevalence of retail investors in these segments, who are more prone to sentiment extremes. By contrast, the mitigated effect in large-cap and financial stocks is in line with institutional investor operations and market efficiency mechanisms, which tend to eliminate behavioral biases.

The COVID-19 pandemic overlay during the sample period makes the picture more complicated. Increased uncertainty and psychological stress may have increased investor reaction to external shocks – potentially amplifying holiday effects or changing their timing [6, 7]. Our inclusion of controls for macroeconomic variables limits some collinearities, but more research could explore how crises may interact with behavioral anomalies.

Overall, these results have a number of implications in the real world for investors and policy makers. In seeing predictable holiday effects investors can inform their trading behavior and risk management. Policy makers can think about the size of the cultural and psychological effects on the stability of the market.

## 6. Conclusion

This research contributes to knowledge of the holiday effect in China's A-share market, in which returns are predictably greater and volatility is reduced in the period before major holidays, and to the predictably lower returns and greater volatility afterward. It adds to our understanding of the influence of behavioral aspects of investor psychology on stock market dynamics by using sentiment proxies and advanced econometric methods. The results are even more pronounced over the observation period for segments of the A-share market where retail investors dominate the trading, emphasizing another potential influence affecting market anomalies: the composition of investor base. The additional challenge presented by the COVID-19 pandemic, although complicating our data, does not detract from the major findings of the research and could contribute to an improved understanding of the behaviour of an emerging market.

There are some limitations to this study. The use of Twitter and other social media metrics as sentiment proxies, while useful for including different channels of potential sentiment, is also problematic as they may not identifiably measure all of the unique facets of investor psychology. The context set by the pandemic also limits the generalizability of this research. Future research could study the consideration of potentially more granular sentiment data and comparisons across markets. In conclusion, this study shows how cultural and social events can need to be incorporated with investor psychology to contribute to understandings of the performance of stock markets, has theoretical implications, and practical implications can be extracted to navigate a changing financial environment in China.

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