Proceedings of CONF-BPS 2026 Symposium: GenAI, Labour Markets, and the Economics of Human and Financial Capital
DOI: 10.54254/2754-1169/2026.LD30095

The Market Impact of Frequent Trading by Investors under Overconfidence--Analysis of the Causes and Implications of Abnormal Fluctuations in China's Stock Market in 2015

Yuchen Wu

College of Economics & Management, China Three Gorges University, Yichang, China
wyc030307@outlook.com

Abstract. This paper takes the abnormal volatility of China's stock market in 2015 as a case study, analyzing how overconfidence drives investors to trade frequently and affects market efficiency from the perspective of behavioral finance. Research points out the limitations of the traditional "rational people" hypothesis, and constructs with a psychological deviation analysis framework with a core of overconfidence. Through the analysis of high-frequency data such as financing balance and turnover rate, it is shown that overconfidence during the bull market phase boosts the influx of leveraged funds and the deviation of asset prices from fundamentals. However, after the market reversal, the psychological deviation reverses, triggering panic selling and a liquidity crisis, which damages the market's pricing function. Finally, systematic suggestions are put forward from three aspects: investor education, market mechanism, and policy supervision, the entire text revolves around overconfidence as the core psychological factor, providing theoretical references and practical paths for enhancing market stability.

Keywords: Overconfidence, frequent trading, market efficiency, behavioral finance, stock market

1. Introduction

The sharp fluctuations in China's A-share market in 2015 have exposed the limitations of traditional financial theory. In China's retail-oriented market structure, investors' overconfidence is prominent, which leads to frequent trading behavior. This phenomenon needs to be explained from the perspective of behavioral finance.

The theoretical framework of traditional finance is insufficient to explain the complex problems of modern financial markets, difficult to adequately deal with market anomalies caused by information dynamics, psychological bias, and system feedback. Although the efficient market hypothesis of Fama laid the foundation that prices reflect information and move randomly, Qun and other scholars pointed out that modern market information flows rapidly, participants' behaviors are heterogeneous, and there are multiple feedbacks, so traditional models are difficult to depict such complexity, especially in extreme events [1,2]. Che Hassan N et al. found that individuals often exhibit irrationality and inaccurate judgment in risk decision-making [3]. Pandey A emphasizes that

DOI: 10.54254/2754-1169/2026.LD30095

psychological bias affects decision-making, and insufficient information is an important cause of psychological bias [4]. By revealing such psychological motivations, behavioral finance extends the boundaries of traditional "rational" analysis.

Investors often exhibit systemic irrationality in the decision-making process, which has been verified in many studies. Arshit G discovered that most investors do not rely solely on logical analysis but combine rationality with emotion [5]. In this way, overconfidence will further cover up risk perception and intensify decision-making contradictions. Yulei R, Diefeng P, Hu S confirmed that overconfidence not only failed to improve returns but also made the performance of retained assets weaker than that of sold assets due to the disposal effect. The "illusion of control" proposed by Langer and the "illusion of knowledge" described by Nofsinger jointly constitute the psychological basis for investors to overestimate their ability and trade frequently [6-8]. The above findings suggest that irrationality is widespread and has specific psychological and behavioral causes.

Modern financial research shows that the formation of market value and price depends on fundamentals and is more systematically affected by investor psychology and behavior patterns, a modification of the traditional efficient market hypothesis. Robert Shiller pointed out that "irrational exuberance" drove the price to deviate significantly from the intrinsic value and formed the market bubble, revealing the key role of emotion and excessive optimism in the pricing process [9]. Zhou Y found that investor sentiment has become an important force shaping stock price fluctuations by influencing intermediate variables such as Initial Public Offering (IPO) returns and turnover rates [10]. Zhang Q et al. revealed through entropy analysis that the market is predictable and there are efficiency differences at different stages. This sort of predictability further indicates that price formation is not always effective. Fangyuan C emphasized that, in the context of China, regulatory policies and market reforms have a guiding function for investor behavior, thus affecting the overall market order and value realization [11].

By constructing the "psychology-behavior-market" analysis framework, this study not only enriches the behavioral finance theory but also provides an important reference for identifying and preventing financial risks, which has positive significance for promoting the stable development of the capital market. Based on the case of the stock market crash in 2015, this paper makes a descriptive statistical analysis, aiming to reveal the mechanism of overconfidence affecting market stability through frequent trading, and finally puts forward governance suggestions from three aspects: investor education, market mechanism, and supervision.

2. Case explanation

From 2007 to 2014, the overall Chinese stock market was in a continuous downturn. Since the second half of 2014, the A-share market has launched a swift bull market, driven by multiple factors such as loose liquidity, positive reform outlook, and financial innovation. As shown in Figure 1, the Shanghai Composite Index soared from approximately 2,000 points to 5,178.19 points on June 12, 2015, with a cumulative increase of over 150%. Additionally, the ChiNext index rose 180% over the same period. The market sentiment gradually fell into a frenzy, and the daily turnover exceeded 2 trillion yuan many times. It is particularly noteworthy that the large-scale influx of leveraged funds has pushed the financing balance of Shanghai and Shenzhen markets to rise sharply from about 400 billion yuan in mid-2014 to 2.27 trillion yuan in June 2015, and the over-the-counter fund matching activities have become increasingly active.

DOI: 10.54254/2754-1169/2026.LD30095

Figure 1. Daily closing price of Shanghai composite index in 2015 (unit: yuan)(picture credit: original)

Data source: https://cn.investing.com/indices/shanghai-composite-historical-data

The rally was not driven solely by fundamentals but by the convergence of investor psychological biases in a particular environment. Stimulated by the profit-making effect, behavioral factors such as overconfidence, representativeness heuristic, and herd mentality lead investors to misjudge risks, conduct high-frequency trading detached from fundamentals, and blindly engage in high leverage, including both on-exchange margin trading and off-exchange shadow financing. Together, these actions drove stock prices to unsustainable highs.

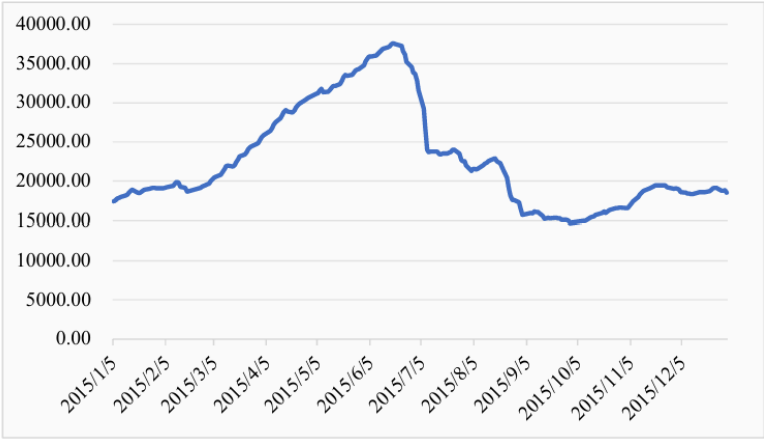

Figure 2. Daily margin trading balance in 2015 (unit: 100 million yuan)(picture credit: original)

Data source: https://data.eastmoney.com/rzrq/total.html

Figure 2 demonstrates the trend of margin balance in the Shanghai and Shenzhen stock markets throughout 2015. Margin trading balance intuitively reflects the scale of funds invested in the stock market through borrowing. The higher the value is, the stronger the market leverage level and speculative sentiment are. From early January to June, in the middle of a bubble accumulation period, the balance of about 1.8 trillion yuan at the beginning of the year began to climb. After March, the balance rose sharply, indicating that overconfidence had completely dominated the market. On June 18th, the balance reached a historical peak of 3,760 billion yuan, marking that the

DOI: 10.54254/2754-1169/2026.LD30095

market leverage level has risen to an extreme state and the system vulnerability has reached a critical point.

The peak was followed by the bubble burst period from late June to July. After the highest point, the balance showed a cliff decline, which means that the "reverse amplification" effect of leverage began to appear. It could be understood that the decline in stock prices leads to an intensification of losses in leveraged accounts. To control risks, securities firms initiate forced liquidation, thereby creating a vicious cycle of "falling stock prices - increasing selling pressure from liquidation - further decline in stock prices", which is a typical "deleveraging chain reaction". As a result, the balance evaporated more than 2.2 trillion yuan in a very short time. Until the end of the year, the balance was continuously under 2 trillion yuan, indicating a significant decline in market speculative enthusiasm, a substantial drop in investors' risk appetite, and an overall shift in sentiment from overconfidence to excessive pessimism.

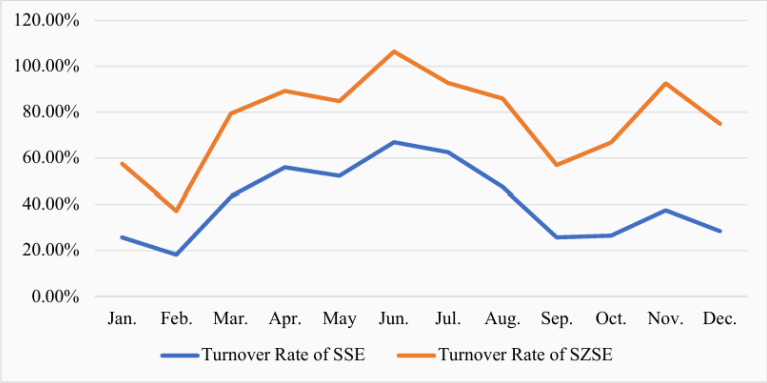

Figure 3. Monthly turnover rates of the Shanghai Stock Exchange(SSE) and the Shenzhen Stock Exchange(SZSE) in 2015(picture credit: original)

Data source: https://www.sse.com.cn/market/stockdata/overview/monthly/index_his.shtml https://www.szse.cn/market/periodical/month/index.html

Figure 3 refers to the data section of the official websites of the Shanghai Stock Exchange (SSE) and Shenzhen Stock Exchange (SZSE). The data on transaction amount and market value of tradable shares from January to December 2015 were extracted. Based on the formula "turnover rate = transaction amount/market value of tradable shares", the monthly turnover rates of the Shanghai and Shenzhen stock markets in 2015 were calculated and plotted.

Further, from the perspective of trading activity, the turnover rate of the Shenzhen market is systematically higher than that of the Shanghai market due to the agglomeration of more small- and medium-cap stocks and retail investors. In June 2015, monthly turnover rates of the Shanghai Stock Exchange and the Shenzhen Stock Exchange reached 66.88% and 106.43%, respectively. The latter means that all the stocks in the entire sector were completely traded within one month. Such extreme figures are rare in mature global markets. They not only directly confirm the existence of excessive speculation and frequent trading but also profoundly reveal how psychological biases are magnified in an investor structure dominated by retail investors, ultimately leading to the loss of market pricing efficiency and sharp fluctuations.

DOI: 10.54254/2754-1169/2026.LD30095

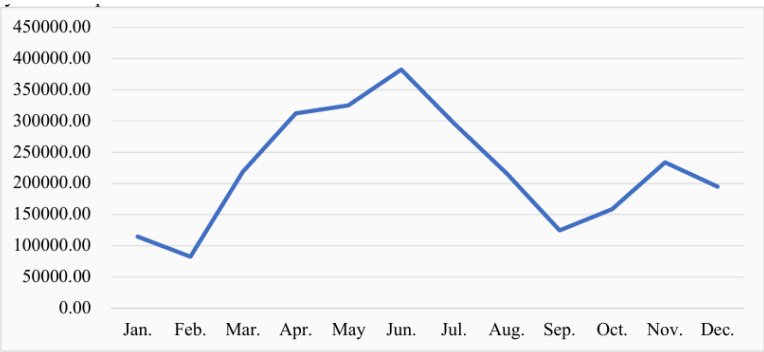

Figure 4. The total monthly transaction amount of the SSE and SZSE in 2015 (unit: 100 million yuan)(picture credit: original)

Data source: https://www.sse.com.cn/market/stockdata/overview/monthly/index_his.shtml

https://www.szse.cn/market/periodical/month/index.html

From the perspective of capital scale, Figure 4 presents the trend of the total monthly trading amount of the Shanghai and Shenzhen stock markets in 2015. The total amount in June reached a historical high of 38.26 trillion yuan, marking the peak of the "liquidity bubble" driven by leveraged funds, frequent trading, and the entry of new investors into the market. The subsequent rapid shrinkage and prolonged slump of transaction amount reflect the depletion of market energy after the bubble burst and also indicate that the capital flow driven by behavioral deviations is highly unstable. Once confidence reverses, it is easy to cause short-term failure of the market mechanism.

In addition, according to statistics from China Securities Depository and Clearing Corporation Limited (CSDC), the number of new accounts opened in the A-share market reached 26.1618 million in 2015, representing a year-on-year growth of approximately 175%. The four indicators, namely margin trading balance, turnover rate, the number of new accounts opened, and total transaction amount, together form an organic whole for measuring frequent trading behavior. They respectively reveal the irrational exuberance under overconfidence from four dimensions: capital motivation, trading frequency, influx of participants, and market activity.

The sharp increase in the number of new accounts reflects the blind entry of retail investors under the profit-making effect, which is the demographic base for frequent trading. The expansion of margin trading balances directly reflects investors' speculative motives to magnify short-term gains by increasing leverage, providing funds for frequent trading. The turnover rate, as a core indicator, precisely depicts the speed at which stocks change hands among different investors. Its abnormally high level directly proves the frequency of trading activities. Ultimately, the huge increase in the total amount was the combined result of the mentioned three factors, marking that the entire market had fallen into a trading frenzy driven by sentiment and leverage. In the A-share market of 2015, the simultaneous surge and resonance of these indicators clearly outlined a complete path from overconfidence to specific and frequent trading behaviors, ultimately leading to market efficiency failure.

DOI: 10.54254/2754-1169/2026.LD30095

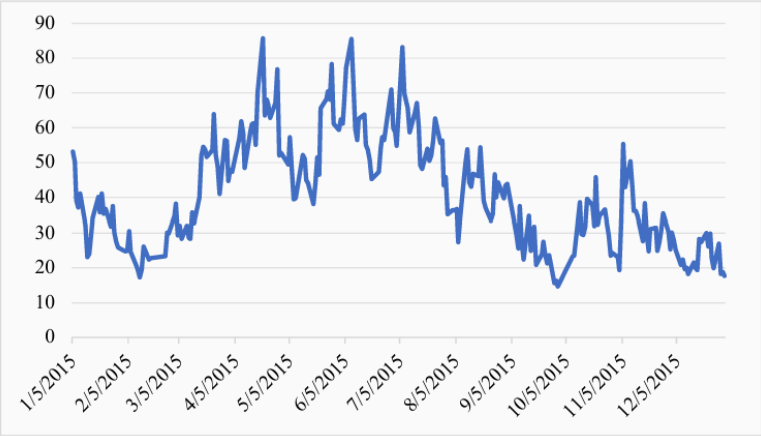

Figure 5. The total daily trading volume of the Shanghai composite index in 2015 (unit: billion yuan)(picture credit: original)

Data source: https://cn.investing.com/indices/shanghai-composite-historical-data

As shown in Figure 5, the steep fluctuations in the annual amount perfectly supported the fact that the psychological change process of the market went from frenzy sentiment to chaos and then to a depression state.

From January to May, market trading amount climbed along with the index, which meant a continuous influx of funds. On June 8th, the daily trading amount reached a peak of 855 billion yuan, indicating that the trading behavior driven by overconfidence has reached its highest. The turning point was the launch of the crackdown on unofficial margin financing by the China Securities Regulatory Commission on June 12th, and market sentiment plunged from optimistic to pessimistic. On June 26, the Shanghai Composite index plunged 7.04% in a single day, with nearly 2,000 stocks falling by the daily limit. The steep decline revealed the stock market disaster. Although the trading amount remained at a high level during this period, it shifted from active speculation to passive selling, showing the characteristics of a liquidity crisis.

In August and September, the market witnessed multiple huge limit downs, with the trading amount plummeting to around 30 to 40 billion yuan. Regulatory authorities have introduced measures to rescue the market, including liquidity support from the central bank and the entry of Central Huijin Investment into the market. Although the market gradually stabilized from October to December, the trading amount remained persistently low, reflecting severe damage to investor confidence and the difficulty in restoring trading willingness. Although policy intervention alleviated panic, it failed to prevent wealth shrinkage and damage to market functions.

3. Behavioral finance analysis of the case

3.1. Overconfidence and illusion of control

Overconfidence refers to a psychological bias in which an individual systematically overestimates their own knowledge, ability, and the accuracy of their predictions. In financial investment, this is specifically manifested as investors blindly believing that they possess stock-picking capabilities, trend judgment abilities, or information advantages that exceed the average market level. As its typical manifestation, the illusion of control leads investors to attribute the profits brought by randomness to their own capabilities.

DOI: 10.54254/2754-1169/2026.LD30095

For instance, several profitable short-term trading transactions reinforce the illusion of being "highly skilled", ignoring the element of luck in the general market rise, and thus falling into the trap of overly frequent trading. As a key factor driving the irrational exuberance and collapse of financial markets, overconfidence gives rise to asset price bubbles by facilitating excessive trading and the accumulation of risks. When the market fails to support its overly high expectations, the collapse of confidence will trigger a sharp market adjustment, forming a typical cycle of irrational exuberance to “burst bubble”.

3.2. Confirmation bias and illusion of knowledge

Confirmation bias refers to the psychological tendency that an individual unconsciously seeks and supports information that conforms to their original beliefs when making decisions, while ignoring or negating contrary evidence. This deviation will lead to the illusion of knowledge and make investors overestimate their own cognitive level.

In the financial market, confirmation bias for investors is like putting on a filter: in a bull market, all the information is interpreted as positive, while in a bear market, all news is regarded as negative. This selective information processing method distorts normal market cognition, continuously strengthens irrational trends, and becomes a vital psychological factor that drives asset prices to deviate from fundamentals, forming market bubbles and collapses.

3.3. Herd behaviour

Conformity behavior (herd effect) refers to the phenomenon where an individual, under group pressure, gives up independent judgment and makes decisions consistent with those of the majority. In the financial market, a typical manifestation is "buying the winners": when asset prices rise, investors follow the trend to buy out of fear of missing out, pushing the price away from the fundamentals and forming a bubble. When the price drops, people collectively sell off due to panic, causing prices to fall excessively and leading to a collapse.

During the stock market fluctuations in 2015, herd behavior resonated with overconfidence and confirmation bias, jointly exacerbating the irrational expansion and violent collapse of the market.

3.4. Loss aversion, endowment effect, and shortsightedness

Loss aversion refers to the situation which people's painful perception of loss far exceeds the joy brought by an equal amount of gain. This psychological deviation can lead to two typical investment behaviors: one is the disposal effect, which is manifested as selling profitable stocks too early to lock in gains, while holding loss-making stocks for a long time to avoid realizing losses. The other is the endowment effect, which leads to an irrational overestimation of the assets already held.

As the most powerful psychological influencing factor of investment, loss aversion plays a dominant role when the market declines. During the market disaster in 2015, the combination of loss aversion and leveraged trading created a "reverse amplification" effect: the decline in stock prices triggered the pain of losses, and the forced liquidation of leveraged accounts made the losses realized rapidly. This double blow led to a sharp spread of panic, perfectly explaining the severity of the market crash and the extraordinary difficulty of rebuilding confidence after the disaster.

DOI: 10.54254/2754-1169/2026.LD30095

4. Conclusion

Based on the perspective of behavioral finance, this paper systematically analyzed the abnormal volatility of the Chinese stock market in 2015 and revealed the internal mechanism of overconfidence psychology affecting market efficiency through frequent trading behavior. Research shows that during a bull market, overconfidence boosts the influx of leveraged funds and the deviation of asset prices from fundamentals, leading to irrational exuberance. However, after the market reversal, the opponent of psychological bias triggered panic selling and liquidity crises, significantly damaging the market's pricing function and resource allocation efficiency. The dynamic changes of high-frequency data, such as financing balance and turnover rate, clearly outline the transmission path from psychological bias to behavior and finally affect the market, further verifying the applicability and importance of behavioral finance theory in explaining the anomalies of the real market.

Based on the research conclusions, this paper suggests improving market governance in three aspects. Firstly, strengthening the guidance of investor behavior and promoting education to shift from knowledge imparting to deviation correction. Secondly, establishing a counter-cyclical market regulation mechanism to curb the pro-cyclical fluctuations of leverage and trading. Lastly, enhancing policy transparency and expectation guidance, shifting from post-event intervention to pre-event expectation management. Further research may focus on the empirical analysis of micro-individual transaction data, explore the heterogeneous influence of psychological deviations in different market structures, and promote the construction of a dynamic risk monitoring system integrating behavioral factors so as to better serve the practical needs of the stable development of China's capital market.

References

[1] Burton, G. & Malkiel, E. (2012) Efficient Capital Markets: A Review of Theory and Empirical Work. Journal of Finance, 12, 46-52.
[2] Zhou, Q., Zhang, P. H. & Zhang, F. (2022) Intraday and Interday Features in the High-Frequency Data: Pre- and Post-Crisis Evidence in China's Stock Market. Expert Systems With Applications, 209, 118-132.
[3] Che Hassan, N., Abdul-Rahman, A., Mohd Amin, S. I. & Ab Hamid, S. N. (2023) Investment Intention and Decision Making: A Systematic Literature Review and Future Research Agenda. Sustainability, 15, 39-49.
[4] Pandey, A. (2021) Behavioral Biases Influencing Individual Investors Decision Making in Bearish Trend at Nepse. Journal of Corporate Finance Management and Banking System, 4, 11-24.
[5] Arshit, G. (2002) Investor Psychology and Market Bubbles: A Behavioral Finance Perspective. International Journal of Scientific Research in Engineering and Management (IJSREM), 9, 1-3.
[6] Yulei, R., Diefeng, P. & Hu, S. (2018) Behaviour Finance. Beijing: China Machine Press, 12, 66-72.
[7] Langer, E. J. (1975) The Illusion of Control. Journal of Personality and Social Psychology, 32, 311-328.
[8] Nofsinger, J. R. (2004) The Psychology of Investing. CITIC Publishing House, 16, 36-42.
[9] Shiller, R. J. (2015) Irrational Exuberance. Princeton University Press, 46, 55-62.
[10] Zhou, Y. (2023) The Influence of Investor Sentiment on Stock Market. Proceedings of the 7th International Conference on Economic Management and Green Development, 16 , 20-78.
[11] Cai, F. Y. (2023) Analysis of the Influencing Factors of China's Stock Market Fluctuations: From the Perspective of Macroeconomic and Policy Factors. Financier 11, 36-72.