

# Analysis of Retail Investors' Trading Psychological Characteristics Based on Big Data

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**Abstract:** In the increasingly complex financial market, retail investors, as a crucial component of the market, are influenced by factors such as the macroeconomic environment, market trends, and individual psychological traits. Psychological characteristics like greed, fear, herd behavior, and overconfidence in retail investors' decision-making processes can lead to irrational trading behavior, thereby affecting investment performance and market stability. With the rapid development of big data technology, new opportunities have emerged for in-depth research on retail investors' trading psychology. This paper first analyzes the research background and importance of studying retail investors' trading psychological characteristics, then elaborates on the specific manifestations of different psychological traits, revealing how these traits influence retail investors' strategies. The aim is to help retail investors enhance their rationality and performance, thereby promoting the healthy development of the financial market.

**Keywords:** Big Data, Retail Investors, Trading Psychological Characteristics.

## 1. Introduction

In the complex and volatile financial market, retail investors, as a significant force, are often influenced by multiple factors such as emotions, information access channels, and the market environment. Their trading behavior often exhibits irrational tendencies, such as blindly chasing rising prices driven by greed, or panic selling triggered by fear. These behaviors and psychological traits deeply impact the overall market trends and individual returns [1-3]. With the rapid advancement of information technology and the advent of the big data era, new opportunities have arisen for a deeper analysis of retail investors' inner worlds and a better understanding of the psychological mechanisms behind their trading decisions. Therefore, it is of great significance to thoroughly study retail investors' trading psychological characteristics and explore how to utilize big data technology for precise analysis to enhance retail investors' rationality and promote the healthy development of the market.

## 2. Psychological Characteristics of Retail Investors' Trading

### 2.1. Greed

Amid the waves of the stock market, retail investors, when faced with continuous market uptrends, often find it difficult to suppress the fire of greed within, yearning to gain more profit through rapid trading. Driven by this greed, retail investors tend to overlook the accumulated market bubbles and potential pullback risks, blindly chasing popular sectors and individual stocks in an attempt to share in the market frenzy [4-5]. However, this irrational behavior pattern often leads to a failure to realize profits when the market reaches a stage high, instead increasing their investment in hopes of capturing the last surge. A sudden shift in market trends could cause the previously accumulated profits to evaporate quickly, or even lead to deep financial losses. For retail investors, learning to control greed, analyzing the market rationally, and timing profit-taking and loss-cutting appropriately is crucial for safeguarding their investment security and achieving

long-term stable returns.

### 2.2. Fear

Faced with the ever-changing investment market, retail investors, when confronted with sudden adjustments or adverse news, often find themselves overwhelmed by fear. Some investors, fearing further devaluation of their assets, rush to exit from risks, hastily selling off their stocks or assets without considering potential rebound opportunities. This panic selling exacerbates short-term market volatility and causes retail investors to miss valuable opportunities for building positions at low prices. Furthermore, the presence of fear can impair their ability to make calm judgments. Therefore, cultivating strong psychological resilience and learning to maintain rationality in the face of fear are vital for retail investors. It is the key to grasping market dynamics and successfully executing contrarian strategies.

### 2.3. Herd Behavior

Within the retail investor community, herd behavior plays a guiding role, influencing investors' behavioral trajectories. Under the dual background of information asymmetry and market sentiment fluctuations, retail investors tend to rely on others' judgments, opting to follow the majority's footsteps in their investment decisions or to invest in popular areas based on market trends. However, this blind following approach disregards the investors' financial conditions, investment goals, and risk tolerance [6], leading to a loss of rationality and independence in decision-making. Herd behavior might result in retail investors buying at market peaks, enduring asset devaluation, or missing out on opportunities during market corrections due to panic. Therefore, fostering independent thinking abilities among retail investors is a crucial prerequisite for resisting herd behavior and achieving stable investment, thus avoiding being swayed by market sentiment [7-8].

### 2.4. Overconfidence

In the retail investor community, overconfidence acts like a distorted mirror, leading them to overestimate their

judgment and decision-making abilities. This blind optimism regarding market fluctuations, policy changes, and risk assessments causes them to invest hastily, often without adequate research or risk assessment, in an attempt to seize market opportunities. However, this negligence of potential risks, fraught with uncertainties, is a major pitfall in investing. It weakens retail investors' ability to respond to sudden market changes, leading to impulsive buying and selling, ultimately increasing the risk of financial losses. Retail investors must have a clear understanding of their capabilities, recognize and overcome overconfidence, and develop habits of calm analysis and rational investing, which are crucial steps towards successful investing.

### 3. The Impact of Retail Investors' Psychological Characteristics on Investment Strategies

#### 3.1. Emotion-Driven and Irrational Decision-Making

In the capital market, retail investors' trading behavior is



Figure 1. The Process of Improving "Emotion-driven and Irrational Decision-making"

#### 3.2. Insufficient Risk Assessment and Overtrading

Due to inherent weaknesses such as greed, herd behavior, and overconfidence, retail investors often struggle with risk assessment in the capital market. They are easily attracted by short-term market fluctuations or the success stories of others, eager to pursue high returns while neglecting the complex risks and uncertainties associated with investments. Underestimating or ignoring these risks drives them to engage in frequent trading, attempting to capture every market opportunity. However, overtrading not only increases transaction costs but also leads to missed opportunities for long-term value growth, ultimately diminishing overall returns. Therefore, strengthening risk awareness and developing a sound risk management strategy requires retail investors to possess the ability to identify and assess risks, learn to find a balance between risk and return, and formulate investment strategies that align with their risk tolerance. This is the key to achieving stable investments and avoiding potential risks. To further enhance their investment outcomes,

highly susceptible to the influence of emotions such as fear, greed, optimism, or pessimism. These emotion-driven decision-making patterns prevent investors from seeing the true nature of the market, leading them to make investment choices that deviate from rationality. Impulsive buying and panic selling increase investment risks, causing investors to miss out on opportunities or become trapped in unfavorable positions, thereby significantly reducing long-term returns. Therefore, retail investors must learn emotional management to maintain objectivity and composure amidst market fluctuations [9-10], avoiding being swayed by temporary emotions. By setting clear investment goals and plans, establishing risk management systems, and cultivating a long-term investment mindset, investors can build a strong defense against emotional interference. Continuous learning and self-reflection are also essential to help investors enhance self-awareness and decision-making abilities, enabling them to achieve more sustainable investment outcomes.

retail investors must adopt a disciplined approach that emphasizes long-term value over short-term gains. This involves not only resisting the temptation to chase after every market fluctuation but also committing to continuous education on market dynamics and risk management techniques. By staying informed and maintaining a clear focus on their financial goals, investors can better navigate market volatility, reduce impulsive trading behaviors, and cultivate a more resilient investment portfolio that aligns with their long-term objectives and risk tolerance.

#### 3.3. Lack of Long-Term Planning and Patience

Given the rapidly changing financial market, many retail investors, in pursuit of trending opportunities, overly focus on short-term gains. They are enthusiastic about short-term speculation, hoping to accumulate wealth quickly, but they overlook the importance of long-term planning and patience. This short-sighted behavior often results in negligible returns. In reality, the true allure of the financial market lies in the sustained growth of long-term value. Great companies and outstanding assets require time to mature and demonstrate

their true value. Therefore, retail investors should adopt a long-term investment mindset, focusing on the future rather than being confined to immediate gains and losses. By setting clear investment goals and plans, they can better chart their investment path, avoid being misled by short-term market fluctuations, and maintain confidence and patience, ultimately achieving wealth growth and accumulation. To achieve sustainable success, retail investors must embrace a strategic approach that values long-term growth over fleeting trends. This involves setting clear, realistic investment goals and regularly reviewing and adjusting their strategies based on evolving market conditions. By focusing on fundamental strengths and maintaining a disciplined investment plan, investors can avoid the pitfalls of short-term thinking and market noise. Cultivating patience and resilience enables investors to weather market volatility, ultimately allowing their investments to compound and grow, thereby realizing substantial returns over time.

investors' financial literacy and risk awareness, it is essential to strengthen investor education by addressing the actual needs, as outlined in Table 1. This education should include the dissemination of basic investment knowledge, such as understanding stocks, bonds, and funds, along with learning risk management strategies like asset allocation, stop-loss, and take-profit settings [11]. Additionally, mastering market analysis methods, such as fundamental and technical analysis, is crucial. Through systematic learning and the sharing of various practical cases, retail investors can be guided to overcome the tendencies of blind following and speculative behavior, establishing a correct investment mindset. Investment is a long-term process, not a shortcut to overnight wealth. Cultivating rational investment habits and encouraging investors to gather sufficient information and conduct risk assessments before making decisions are vital for making more prudent and wise investment choices in a complex and ever-changing market environment.

## 4. Improvement Strategies for Retail Investors' Trading Psychological Characteristics

### 4.1. Strengthening Investor Education

To build a healthy investment ecosystem and improve retail

**Table 1.** Contents of Strengthening Investor Education

Categories	Specific Content
Investment Fundamentals Education	Stocks: Definition of stocks, issuance, trading mechanisms, dividends, and distributions.
	Bonds: Types of bonds, interest rates, credit ratings, and maturity.
	Funds: Types of funds (e.g., equity funds, bond funds, hybrid funds, money market funds), operation methods, and fee structures.
Risk Management Strategies	Asset Allocation: Understanding portfolio theory, diversifying investments to reduce risk.
	Stop Loss and Take Profit: Setting reasonable stop-loss and take-profit points to control losses and secure gains.
	Risk Management Tools: Introduction to hedging tools such as options and futures.
Market Analysis Methods	Fundamental Analysis: Macroeconomic analysis, industry analysis, and company financial analysis.
	Technical Analysis: Chart interpretation, technical indicators, trading volume analysis, and pattern recognition.
	Market Sentiment and Psychological Analysis: Understanding the impact of market sentiment on prices to avoid emotional trading.

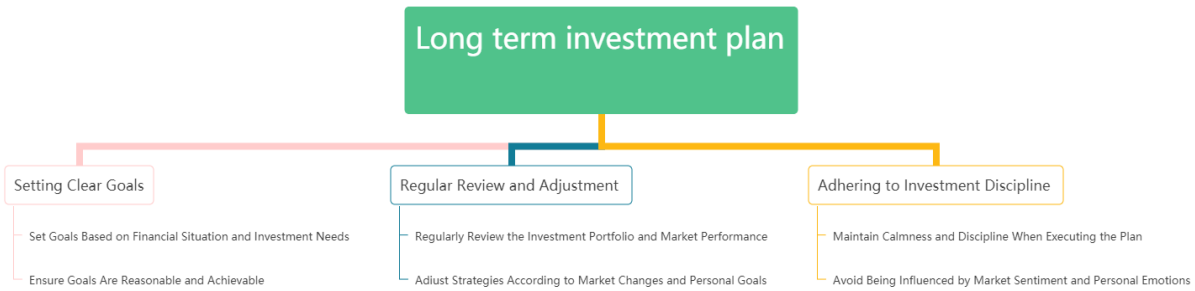
### 4.2. Developing Personalized Investment Strategies

In the complex and diverse financial market, retail investors need to develop personalized investment strategies to stand firm and increase their wealth. Each investor should clearly define their investment goals, whether aiming for long-term stable growth or pursuing short-term high returns, which will serve as the foundation for strategy development. It is crucial to thoroughly assess one's risk tolerance and understand and accept the limits of personal risk preferences to avoid reckless advances and protect capital safety. After laying the groundwork, a detailed investment plan should be formulated, including asset allocation ratios, selection of investment products, and the timing of buying and selling, ensuring that each action aligns with the established investment goals [12]. During the execution phase, it is important to adhere to principles, adjust when necessary, and be courageous in admitting mistakes and cutting losses to better control risks and gradually achieve expected returns.

### 4.3. Establishing a Long-Term Investment Mindset

The core of establishing a long-term investment mindset lies in deeply understanding the nature of market fluctuations. These fluctuations are a normal part of market operations and do not represent the entirety of investment risks. Short-term market volatility is primarily driven by a complex interplay of various factors, making it difficult to predict and full of uncertainty. It does not fully reflect the true value and long-term prospects of enterprises. Therefore, retail investors should focus on the future and pay attention to a company's fundamentals, including its industry position, competitive advantages, profitability, and growth potential. They should avoid blindly chasing short-term market hotspots or speculative themes. When formulating a long-term investment plan, retail investors should set clear goals, considering factors such as personal financial conditions, risk tolerance, and investment duration. Regular reviews and adjustments are necessary. By continuously assessing the performance of their investment portfolio and changes in the market environment, they can timely adjust their investment strategies, ensuring that the investment plan remains aligned

with their personal goals, as shown in Figure 2.



**Figure 2.** Key Points of the Long-Term Investment Plan

#### 4.4. Strengthening Market Supervision

Faced with illegal activities that severely disrupt market order and harm investors' interests, such as market manipulation and insider trading, regulatory authorities must adopt a zero-tolerance attitude, intensify law enforcement, and ensure that offenders face appropriate legal consequences. This highlights that strengthening market supervision is a core responsibility of regulatory authorities in ensuring the healthy operation of financial markets and protecting retail investors' rights. Simultaneously, the information disclosure system should be improved, requiring market participants to disclose relevant information timely, accurately, and comprehensively to reduce information asymmetry and increase market transparency. Adequate preparation helps investors make more informed investment decisions and serves as a crucial foundation for maintaining market fairness. Additionally, using technological means to enhance regulatory efficiency, achieving real-time monitoring and early warning of market dynamics, can timely identify and address potential risks, ensuring market order stability.

#### 4.5. Introducing Intelligent Investment Advisory Tools

With the rapid development of technology, introducing intelligent investment advisory tools is an important approach to improving the decision-making efficiency and quality of retail investors. By relying on big data processing and artificial intelligence algorithms, these tools deeply explore investors' personalized needs, including their unique risk preferences, financial status, and long-term investment goals, to tailor investment strategies accordingly. Intelligent investment advisors can provide precise asset allocation suggestions, analyze market dynamics in real-time, identify investment opportunities, and effectively warn against potential risks, helping investors remain calm and rational in a complex and volatile market environment. Furthermore, intelligent investment advisory tools possess the ability to learn and optimize [13-14]. Based on investor feedback and actual market performance, they continuously adjust and refine strategies, ensuring the timeliness and effectiveness of investment advice.

### 5. Conclusion

In conclusion, in a highly digitized and information-driven financial market, the trading psychological characteristics of retail investors have become increasingly significant in influencing market development. Comprehensive analysis of the common psychological traits exhibited by retail investors during trading can directly impact investment decisions,

thereby affecting market trends and individual returns. Moreover, the widespread application of big data technology holds great potential in analyzing retail investors' trading psychological characteristics. As big data technology continues to evolve, it can offer more personalized and scientifically sound investment guidance for retail investors, driving the financial market towards greater fairness and efficiency.

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