Financial Engineering and Risk Management (2024)
Clausius Scientific Press, Canada

DOI: 10.23977/ferm.2024.070614
ISSN 2523-2576 Vol. 7 Num. 6

The Relationship between Financial Market Volatility and Investor Behavior

Jie Gong

Shenzhen Xiaozuanfeng Culture Media Co., Shenzhen, 518000, China

Keywords: Financial market volatility; Investor behavior; Interaction; Risk awareness; Market supervision

Abstract: This article aims to deeply explore the interaction mechanism between financial market volatility and investor behavior, in order to provide theoretical basis for understanding the market operation law and improving the efficiency of market supervision. Through the comprehensive use of various methods, this article first combs the theoretical basis and current situation analysis of financial market volatility, and makes clear the definition, measurement methods and causes of volatility. Then, it analyzes the theoretical basis of investors' behavior and the specific influence of financial market volatility on investors' behavior, and reveals the complex relationship between them. The results show that financial market volatility significantly affects investors' risk perception and decision-making preference, and investors' collective behavior will further amplify market volatility and form a positive feedback cycle. Based on the above research, the following conclusions are drawn: there is a close interaction between financial market volatility and investor behavior, which jointly affect the dynamic balance of financial markets. In order to promote the healthy development of the financial market, investors, financial institutions and regulatory agencies need to work together to enhance risk awareness, optimize product design, strengthen market supervision, and pay attention to investor education.

1. Introduction

As the core component of modern economic system, financial market bears multiple basic functions such as capital circulation, resource allocation, risk dispersion and price discovery [1]. It not only provides a trading platform for both the supply and demand sides of funds, promotes the transformation from savings to investment, but also guides resources to flow to areas with higher efficiency through price signals, thus promoting sustained economic growth [2]. The stability of the financial market is directly related to the healthy development of the national economy and the security of people's wealth [3].

However, the financial market is not static, and its volatility is one of its inherent attributes [4]. The fluctuation of market price not only reflects the change of economic fundamentals, but also is influenced by multiple factors such as market sentiment, policy adjustment and international environment [5]. This volatility, on the one hand, provides investors with opportunities to make profits, on the other hand, it may also lead to systemic risks and impact on economic activities, such

as credit crunch, consumption decline and investment reduction [6]. Therefore, a deep understanding of the volatility of financial markets is of great significance for maintaining financial stability and promoting economic development.

In the financial market, investors are direct participants in market activities, and their behavior and decisions directly affect the supply-demand relationship and price formation of the market [7]. Investors' behavior is driven by their own risk preferences, expected returns, market information and other factors, which are closely related to market volatility [8]. For example, when the market fluctuates greatly, investors may tend to be conservative and reduce trading activities, thus further affecting the liquidity and price discovery function of the market [9]. Therefore, it is of great theoretical value to explore the relationship between investor behavior and financial market volatility for revealing the market operation law and improving the efficiency of market supervision.

The purpose of this study is to provide a theoretical basis for understanding the market operation mechanism, predicting the market trend and formulating investment strategies through in-depth analysis of the internal relationship between financial market volatility and investor behavior. At the same time, this study also has important practical significance, which can provide decision-making reference for financial regulators, help prevent systemic risks and maintain the stability and healthy development of financial markets.

2. Theoretical basis of financial market volatility

2.1. Definition and measurement of financial market volatility

Financial market volatility refers to the phenomenon that the price of financial assets fluctuates around its average value, which not only reflects the immediate feedback of market information, but also contains the uncertainty of investors' expectations for the future [10]. As a basic feature of financial market, volatility directly reflects the degree of market risk. In order to accurately capture and quantify this volatility, scholars have proposed a variety of measurement methods, such as standard deviation, variance, volatility index and so on. These measurement tools are helpful for investors to evaluate market risks and provide an important basis for financial regulators to monitor market stability.

2.2. Cause analysis of financial market volatility

The causes of financial market volatility are complex and diverse, including both macroeconomic factors, such as economic growth, inflation and monetary policy, and non-economic factors such as market sentiment, policy changes and international political and economic environment. Changes in macroeconomic factors will directly affect the profitability of enterprises and investors' expectations, and then trigger fluctuations in market prices. Market sentiment and policy changes indirectly lead to market volatility by affecting investors' confidence and expectations. With the deepening of globalization, changes in the international political and economic environment have also become an important factor affecting the volatility of financial markets.

2.3. Characteristics of current financial market volatility

In recent years, the volatility of global financial markets has shown some new characteristics. Figure 1 summarizes the new characteristics of global financial market volatility.

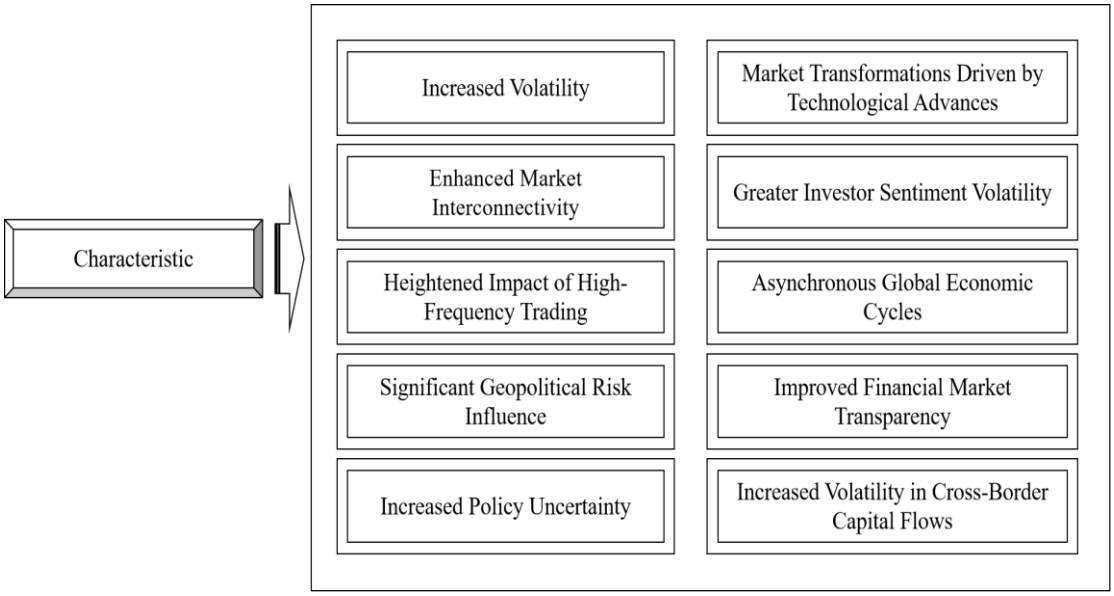

Figure 1: New characteristics of global financial market volatility

With the increasingly open financial market, the spread of market information is accelerated, and investors are more sensitive to market changes, which leads to increased market volatility. The linkage of financial markets is enhanced, and the fluctuation of one market will often be quickly transmitted to other markets, triggering global financial turmoil. With the continuous innovation and complexity improvement of financial derivatives, the source and transmission mechanism of market volatility have become more complex and unpredictable.

3. Theoretical and empirical analysis of investor behavior

3.1. Theoretical basis of investor behavior

Investor behavior is the core of financial market activities, and its behavior decision is directly influenced by many theories. Behavioral finance believes that investors are not completely rational, and their decision-making process is often influenced by psychological factors, such as overconfidence, loss aversion and conformity psychology. These psychological factors will lead investors to make irrational decisions when the market fluctuates, and then affect the stability and efficiency of the market. Expectation theory and risk preference theory are also important theories to explain investors' behavior. Expectation theory emphasizes the influence of investors' expectation of future income on their decision-making, while risk preference theory reveals investors' choice preference when facing different risk levels.

3.2. The influence of financial market volatility on investors' behavior

Changes in financial market volatility will directly affect investors' behavior and decision-making. As shown in Table 1:

Table 1 reflects the specific changes of investors in trading activities, reaction sensitivity, asset allocation and risk management strategies when market volatility increases. When market volatility increases, investors tend to become more cautious and reduce trading activities to reduce investment risks. At the same time, the increase of volatility will also lead investors to be more sensitive to market information and prone to overreaction or underreaction. In addition, market volatility will also affect investors' asset allocation and risk management strategies.

Table 1: Specific Impacts of Increased Market Volatility on Investor Behavior Decisions

	Investor Behavior Change	Descriptions
Influencing Factor Increased Market Volatility	Trading Activity	Daily average trading volume decreases by approximately 30% to reduce investment risk
	Reaction Sensitivity	Investor response time to market information shortens to an average of less than 2 hours, prone to overreaction or underreaction
	Asset Allocation	Allocation ratio of hedge funds and safe-haven assets increases by about 15%
	Risk Management Strategy	Frequency of portfolio adjustments increases to once per month to adapt to market volatility

3.3. Feedback of investor behavior on financial market volatility

Investor behavior is not only affected by market volatility, but also has a feedback effect on market volatility. As shown in Table 2:

Table 2: Specific Feedback Effects of Investor Behavior on Market Volatility

Investor Behavior	Impact on Market Volatility	Descriptions
Panic Selling by Large Numbers of Investors	Exacerbates Market Volatility	May lead to a single-day drop in stock market indices exceeding 5%, with market volatility increasing by 30%
Investors Following Trends (Buying on Upswings, Selling on Downswings)	Exacerbates Market Volatility	Trading volume surges, market volatility increases by more than 25%, forming short-term market bubbles
Rational Decision-Making by Investors	Stabilizes Market Volatility	Market volatility gradually decreases to historical average levels, such as from 30% to 20%
		Proportion of long-term investors rises, enhancing market stability and maintaining volatility at lower levels

When a large number of investors adopt the same trading strategy simultaneously, such as panic selling or chasing after gains and losses, it can exacerbate market volatility and even trigger systemic risks. On the contrary, if investors can maintain rationality and make reasonable investment decisions based on market information, it will help stabilize the market and reduce volatility. Therefore, investors' behavioral choices are of great significance in maintaining the stability of financial markets.

Based on the above analysis, the following conclusions can be drawn:

(1) The increase in market volatility will significantly affect investors' behavioral decisions, including reducing trading activity, increasing reaction sensitivity, adjusting asset allocation, and risk management strategies.

(2) Investors' behavioral choices can also have a feedback effect on market volatility. Panic selling and price chasing can exacerbate market volatility, while rational decision-making can help stabilize the market and reduce volatility.

Therefore, in order to maintain the stability and development of the financial market, it is necessary to guide investors to make rational decisions, strengthen market supervision and risk management.

4. Conclusions and suggestions

4.1. Research findings

Through systematic research, it reveals the complex and profound internal relationship between financial market volatility and investor behavior. The main findings are as follows: the volatility of financial market significantly affects investors' risk perception and decision-making preference. Under the high volatility environment, investors tend to adopt more conservative investment strategies, reduce trading frequency and increase the allocation of safe-haven assets; At the same time, the collective behavior of investors, such as herd effect, can further amplify market fluctuations and form a positive feedback cycle. In addition, the study also verified the original hypothesis that there is a two-way interaction between investor behavior and market volatility. They shape each other and jointly affect the dynamic balance of financial markets.

4.2. Policy and practical significance

Based on the above findings, the following suggestions are put forward in order to provide reference for promoting the healthy development of financial markets:

(1) For investors, they should enhance their risk awareness, treat market fluctuations rationally, and avoid blindly following the trend or overreacting. Investors can effectively manage personal investment risks by diversifying their portfolios and setting reasonable stop-loss and profit-taking points.

(2) Financial institutions should strengthen risk management, optimize product design and improve transparency to help investors better understand market dynamics and risk levels. Financial institutions should also actively fulfill their social responsibilities and improve the public's financial literacy through investor education activities.

(3) Regulators need to further improve the market supervision system, strengthen the crackdown on illegal activities such as market manipulation and insider trading, and maintain market order. By establishing a sound risk early warning and response mechanism, systemic risks can be identified and resolved in time to ensure the stable operation of the financial market. Regulators should also encourage financial innovation to improve the efficiency and resilience of financial markets.

(4) In the long run, optimizing the market mechanism and strengthening investor education are the keys to reduce the negative impact of market fluctuations and promote the stable development of financial markets. This requires all parties to work together to build a more fair, transparent and efficient financial market environment, so that investors can make rational investment decisions on the basis of fully understanding risks.

References

[1] Huang Congting, Li Jiayu. Comparative Study on CARR Model and GARCH Model of Financial Market Volatility [J]. Economics, 2022, 5(5):40-42.

[2] Wang Jiancong. The impact of market imperfections and stock price volatility on the performance of index futures price forecasting during the global financial crisis [J]. Journal of Management, 2018, 35(4):503-531.

[3] Huang Xianhuan, Yao Rongrong. Marketization of loan interest rate and investment in corporate financial assets: inhibition or promotion [J]. Journal of nanjing audit university, 2021, 018(002):91-101.
[4] Xu Ruihui, Yan Cheng. Research on Global Infrastructure Investment Fund: Investor Preference and Principal-Agent Problem [J]. International Finance Research, 2020, 393(1):21-32.
[5] Yang Dayu, Xu Xiaofang, Lu Zhengfei. Financial Structure and Overinvestment of Enterprises: Evidence Based on Social Financing Structure [J]. Management World, 2023, 39(7):121-139.
[6] Jin Dawei, Chen Jingyu, Xia Mengran. Social Media Investor Behavior, Industry Fluctuation and Spillover Effect [J]. Scientific Research Management, 2023, 44(5):174-183.
[7] Wei Chenglong, Guo Yinan, Guo Chengcheng. Financial technology, information quality and institutional investors' herding behavior [J]. Contemporary Finance and Economics, 2023(9):55-68.
[8] Wu Yinkai, Chen Qingping. The impact of institutional investors' expected differences on their risk-taking behavior [J]. Southern Finance, 2019, 512(04):51-58.
[9] Zhan Xi, Pan Zhisong, Li Wei, et al. Financial time series forecasting method based on multi-scale characteristics and attention [J]. Computer Engineering and Application, 2022, 58(19):107-115.
[10] Guo Na, Wu Yuyuan, Liu Xiaoxiao. The impact of the reversal of international capital flows on the effectiveness of China's monetary policy [J]. Financial Economics Research, 2018, 033(002):37-49.