



The Impact of Financial Technology on Stock Market Volatility

Zhongqin Zhao

Universiti Teknologi MARA, Selangor, Malaysia

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Abstract: This article explores the impact of financial technology on stock market volatility. With the development of financial technology, the speed of information transmission has been increased, the accuracy and transparency of information have been improved, and trading efficiency has been enhanced while trading costs have been reduced. Financial technology has injected more vitality into the stock market, changing traditional trading methods and exerting a profound impact on stock market volatility.

Keywords: financial technology, stock market volatility, information transmission, trading methods

1. Introduction

With the rapid development and popularization of financial technology, its role in the stock market is becoming increasingly prominent. Financial technology has not only changed the way investors access information but also improved trading efficiency, reduced trading costs, and further promoted the development and volatility of the stock market. This article will discuss the impact of financial technology on stock market volatility from the aspects of information transmission, trading methods, and propose corresponding strategies.

2. The Impact of Financial Technology on the Stock Market

2.1 Accelerating Information Transmission Speed

The development of financial technology has greatly accelerated the speed of information transmission, significantly impacting stock market volatility. Traditionally, investors needed to access market information through traditional media channels such as newspapers and television, leading to information lag and uncertainty. However, with the application of financial technology, such as high-frequency trading systems and smart algorithms, information can be transmitted in real-time globally, enabling investors to respond to market changes more quickly. This acceleration in information transmission speed not only speeds up investment decision-making but also makes market reactions more immediate and sensitive. Furthermore, the accelerated information transmission speed has also led to increased market volatility. When important information spreads to the market at a faster pace, it may trigger collective investor behavior, leading to rapid market price fluctuations. Especially in high-frequency trading environments, even minor price movements may be magnified, exacerbating market volatility. Therefore, the enhanced information transmission speed brought about by financial technology provides investors with more opportunities but also increases the probability and magnitude of market volatility, requiring them to be more cautious in dealing with this market characteristic to balance risk and return.

2.2 Improving Information Accuracy and Transparency

The rapid development of financial technology has significantly improved the accuracy and transparency of stock market information, exerting a profound impact on stock market volatility. Traditionally, due to limited access to information through traditional media and channels, the accuracy and transparency of information were somewhat limited, making it difficult for investors to obtain comprehensive and accurate information, leading to potential misinformation or information asymmetry. However, with the application of financial technology, access to and dissemination of information has become more convenient and comprehensive, greatly increasing the accuracy and transparency of information. Through the application of financial technology, investors can use various data analysis tools and platforms to obtain real-time and accurate market information, including company financial data, market trend analysis, and public sentiment monitoring, helping them make wiser investment decisions. At the same time, financial technology also promotes the transparency of information, such as the application of blockchain technology, which can achieve traceable and tamper-proof transaction information, enhancing market transparency and fairness. However, the improvement in information accuracy and transparency may also have a certain impact on stock market volatility. When information in the market becomes more accurate and transparent, investor

behavior may become more rational and consistent, thereby reducing the probability of market volatility. However, in certain circumstances, if there is a significant change in market information, collective investor reactions may amplify market volatility.

2.3 Enhancing Trading Efficiency

The rapid development of financial technology has significantly improved the efficiency of stock market trading, exerting a profound impact on stock market volatility. Traditionally, stock market trading relied on cumbersome manual processes, including telephone orders and paper trading forms, resulting in low trading efficiency and potential errors. However, with the widespread application of financial technology, such as electronic trading platforms and high-frequency trading systems, stock market trading has become faster, more convenient, and efficient. Firstly, the application of financial technology has made the trading process more automated and digitized. Investors can place orders directly through the internet and trading systems without relying on complex manual processes, significantly reducing the execution time of trades. Meanwhile, the use of high-frequency trading systems has further accelerated the speed of trading to microseconds or even nanoseconds, greatly enhancing trading efficiency. Secondly, the development of financial technology has also promoted the reduction of trading costs and the improvement of market liquidity. Due to the increased convenience and efficiency of trading, trading costs have been effectively controlled, and the volume and frequency of trading in the market have significantly increased, improving market liquidity. This not only provides investors with more trading opportunities but also offers more convenient liquidity support for market participants. However, the improvement in trading efficiency may also have a certain impact on stock market volatility. The rapid and efficient nature of trading makes market prices more sensitive and immediate, potentially triggering market fluctuations once significant information or market shocks occur. Particularly in high-frequency trading environments, even slight price movements may be magnified, further exacerbating market volatility.

2.4 Reducing Trading Costs

The rapid development of financial technology has significantly reduced stock market trading costs, exerting a profound impact on stock market volatility. Traditionally, stock market trading relied on cumbersome manual processes and intermediaries, resulting in high trading costs and a variety of intermediate fees. However, with the widespread application of financial technology, including electronic trading platforms, blockchain technology, smart contracts, etc., stock market trading costs have been effectively reduced. Firstly, the application of financial technology has made the trading process more automated and digitized, greatly reducing labor costs and intermediary fees in the trading process. Investors can directly trade through electronic trading platforms without relying on complex manual processes and intermediaries, thereby reducing trading costs. Furthermore, the application of blockchain technology also achieves decentralized and automated transaction settlement, reducing the time and cost of settlement, further lowering trading costs. Secondly, the development of financial technology has led to increased competition and innovation in the trading market, further reducing trading costs. The widespread use of electronic trading platforms has intensified competition between different exchanges and brokers, providing investors with more choices and lower trading fees. Additionally, financial technology innovation has also driven the diversification and personalization of trading products and services, meeting the diverse needs of investors and reducing their trading costs. However, the reduction in trading costs may also have a certain impact on stock market volatility. Low-cost trading makes it easier for investors to trade frequently, potentially triggering larger-scale trading activities and exacerbating market volatility.

3. Strategies for Financial Technology's Impact on Stock Market Volatility

3.1 Raising Awareness and Education

The development of financial technology has had a profound impact on stock market volatility, providing investors with more trading opportunities and conveniences while also increasing market volatility. In this context, raising awareness and education among investors is particularly important, helping them better understand the impact of financial technology on stock market volatility and improving the accuracy and caution of investment decisions. Firstly, raising awareness among investors can help them better understand the advantages and risks brought about by financial technology. Investors need to understand the basic principles and operation of financial technology, as well as its specific applications in stock market trading, to better grasp market changes and opportunities. At the same time, they also need to recognize the potential increase in market volatility and trading risks brought about by financial technology, avoiding excessive trading and blindly following trends, and maintaining a rational and prudent investment attitude. Secondly, strengthening financial education

among investors can enhance their investment skills and risk management abilities. Through learning and training, investors can gain more knowledge about stock market trading, financial products, and investment strategies, improving their understanding and analytical ability of the market. They can also learn how to use financial technology tools for trading and risk management, avoiding the risks brought about by market volatility and achieving long-term stable investment returns.

3.2 Promoting Innovation and Technological Development

The rapid development of financial technology not only reduces stock market trading costs but also promotes innovation and technological development, exerting an important impact on stock market volatility. By promoting innovation and technological development, financial technology provides the stock market with more tools and opportunities while also bringing more challenges and regulatory issues. Firstly, financial technology innovation drives the diversification of stock market trading methods and products. With the widespread application of technologies such as blockchain, artificial intelligence, and big data, stock market trading platforms and tools are constantly being updated, providing investors with more choices and more flexible trading methods. For example, smart trading systems can automatically execute trading strategies based on algorithms, and high-frequency trading technology can achieve millisecond-level trading responses, making the market more active and efficient. These innovative technologies bring more variables to stock market volatility, requiring investors to enhance technical learning and risk management. Secondly, the technological development of financial technology also presents challenges for stock market regulation. With the emergence of new financial products such as virtual currencies and ICOs, regulatory authorities face a more complex regulatory environment and technological regulatory challenges. Balancing financial innovation and market order, effectively regulating new financial activities, has become a common challenge faced by regulatory agencies and investors. Strengthening financial technology regulation to protect investor interests and maintain market stability is an urgent issue that needs to be addressed.

4. Conclusion

The development of financial technology has had a profound impact on stock market volatility, accelerating the speed, accuracy, and transparency of information transmission, improving trading efficiency, and reducing trading costs. This impact not only provides investors with more trading opportunities and convenience but also increases the probability and magnitude of market volatility, requiring investors to handle market characteristics more cautiously and rationally to balance risk and return. Meanwhile, raising awareness and education among investors, strengthening regulation, and technological innovation are effective strategies for dealing with the impact of financial technology on stock market volatility. In the context of rapid financial technology development, investors need to continue learning and adapting to better grasp market opportunities and risks, achieving long-term stable investment returns.

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