

# Securities Analysis in Finance: A Study of Stock Market Fluctuations and Their Influencing Factors

Wen PeiCheng<sup>1</sup>, Nurhaiza Nordin<sup>1\*</sup>, Nurnaddia Nordin<sup>1</sup>

<sup>1</sup> University Malaysia Kelantan, Kota Bharu, Malaysia

\*Corresponding Author: [haiza@umk.edu.my](mailto:haiza@umk.edu.my)

Received: 25 October 2024 | Accepted: 2 December 2024 | Published: 31 December 2024

DOI: <https://doi.org/10.55057/ijaref.2024.6.5.8>

**Abstract:** *The stock market plays a crucial role in modern financial systems, serving as an important platform for corporate financing, resource allocation, enterprise value discovery, and investor wealth growth. The volatility of the stock market directly impacts investors' returns, market stability, and economic development. Therefore, studying the sources and influencing factors of stock market volatility is of great significance for maintaining financial stability, guiding investment strategies, and formulating effective economic policies. Research on stock market volatility has undergone a long evolution. Early studies focused primarily on testing market efficiency and constructing volatility models. As time went on, attention began to shift to the time-varying nature of volatility, volatility clustering, long memory, and the relationship between volatility and other market variables. In recent years, with the rapid development of big data and artificial intelligence technologies, new data sources and methodologies have been applied to research on stock market volatility, revealing the impact of subjective factors such as market sentiment and investor behavior on stock market volatility. In the current economic and financial context, in-depth research on stock market volatility holds significant theoretical and practical value. Through comprehensive analysis of stock market volatility, one can understand the operating status of the market, grasp its future trends, and provide effective investment decision-making basis for investors. At the same time, governments and regulatory agencies can also rely on these research findings to formulate more reasonable and effective economic policies to maintain the stability and prosperity of financial markets. Furthermore, for academia, research on stock market volatility also contributes to driving innovation and development in financial theory, providing theoretical support for the standardized operation of financial markets.*

**Keywords:** Stock market, Fluctuations, Financial system

## 1. Introduction

### 1.1. Background

The stock market, as a core component of the modern financial system, plays multiple roles such as fund raising and allocation, enterprise value discovery, and investor wealth growth. It not only provides direct financing channels for enterprises, facilitating the effective allocation of resources, but also reflects market expectations and sentiment changes towards economic fundamentals through price fluctuations. The development status of the stock market directly affects the stability of financial markets, the optimization of economic structures, and the sustained growth of national economies. Therefore, a deep understanding of the operating mechanisms of the stock market, particularly its volatility characteristics, is of great

significance for maintaining financial stability, guiding investment decisions, and formulating economic policies (Andersen et al., 2003).

### **1.2. Significance of Studying Stock Market Volatility**

Firstly, for investors, stock market volatility directly impacts their investment returns and risk levels. High volatility means frequent and large price fluctuations, requiring investors to have higher risk tolerance and sharper market insights. Studying stock market volatility helps investors identify investment opportunities, formulate appropriate investment strategies, and achieve wealth preservation and appreciation.

Secondly, for governments, as regulators of financial markets and formulators of macroeconomic policies, they need to closely monitor the volatility of the stock market. The stability of the stock market is an important foundation for financial stability. Excessive volatility can lead to market panic, capital outflows, credit tightening, and other chain reactions, affecting the normal operation of economic society. Therefore, governments need to adjust policies to stabilize market fluctuations, maintain market stability, and ensure financial security and healthy economic development (Bekaert & Harvey, 1995).

Finally, from the perspective of the overall economy, the stock market serves as a "barometer" of economic performance, with its volatility reflecting changes in macroeconomic conditions and market expectations. Studying stock market volatility helps governments and all sectors of society more accurately grasp the economic situation, predict economic development trends, and provide a scientific basis for formulating and adjusting economic policies.

### **1.3. Research Objectives**

This paper aims to delve into the causes and influencing factors of stock market volatility, providing decision-making references for investors, theoretical support for government policy formulation, and new perspectives and ideas for the academic community to further deepen its understanding of stock market volatility (Campbell et al., 2001). By systematically reviewing the theoretical foundations of stock market volatility and analyzing multidimensional influencing factors such as macroeconomics, policies, companies, industries, international factors, market sentiment, market structure, and technology and legal aspects, this paper seeks to reveal the internal laws and external drivers of stock market volatility, contributing to the exploration of a more robust and efficient financial market system.

## **2. Overview of Stock Market Volatility**

Stock market volatility refers to the magnitude and frequency of changes in stock prices, often reflecting the market's activity level and uncertainty. The greater the volatility, the more drastic the price fluctuations, whereas low volatility signifies more stable price movements. Volatility is a critical measure of market risk and is frequently used by investors, analysts, and economists to gauge market trends and formulate investment strategies. Volatility is not only a core feature of financial markets but also plays a vital role in stock pricing, risk management, and investment decision-making (Choudhry, 2001).

### **2.1. Definition and Characteristics**

Stock market volatility refers to the degree of variation in stock prices relative to their average value, manifested as price fluctuations over time. It can be driven by a variety of factors, including changes in macroeconomic policies, corporate financial performance, global political situations, natural disasters, market sentiment, and more. These factors collectively influence

supply and demand dynamics in the market, causing stock prices to fluctuate (French et al., 1987).

## 2.2. The following are some key characteristics of volatility:

**Frequent and Persistent Changes:** Stock market volatility is usually characterized by frequent changes in stock prices. Investors in the market are constantly making decisions based on new information, which leads to constant fluctuations in stock prices. These fluctuations can be short-term or long-term, and in some special cases, there may be abnormal volatility (Schwert, 1989).

**Uncertainty:** Volatility reflects market uncertainty. This uncertainty stems from information asymmetry, investor psychology, and constantly changing market expectations. Such uncertainty can make price movements difficult to predict, posing greater risks for investors.

**Autocorrelation:** Volatility often exhibits autocorrelation, meaning periods of high volatility are usually followed by continued high volatility, while periods of low volatility may also persist. This phenomenon is known in finance as "volatility clustering."

**Impossible to Eliminate Completely:** Even with diversification or hedging tools, volatility cannot be fully eliminated. It reflects the market's reaction to uncertainty and changes in information, so some level of volatility will always exist in any market.

Table 1: Key features

Characteristic	Description
<b>Frequent Changes</b>	Prices fluctuate constantly due to new information.
<b>Uncertainty</b>	Difficult to predict price movements due to market uncertainty.
<b>Autocorrelation</b>	High volatility often follows high volatility, and low follows low ("volatility clustering").
<b>Unavoidable</b>	Volatility can't be completely eliminated, even with diversification or hedging.

## 2.3. Long-Term Volatility, Short-Term Volatility, and Abnormal Volatility

Stock market volatility can be categorized into long-term volatility, short-term volatility, and abnormal volatility based on the time frame and extent of the fluctuation (Engle, 1982).

### Long-Term Volatility

Long-term volatility refers to changes in stock prices over an extended period, such as several months or years. It is mainly driven by macroeconomic factors, structural adjustments in industries, long-term capital flows, and changes in national policies. Long-term volatility often reflects the market's response to changes in economic fundamentals, such as economic growth rates, inflation, monetary policy, and the international trade environment.

Long-term volatility tends to accumulate gradually. While the changes at individual points in time may not be significant, these small fluctuations can accumulate into substantial price changes over time. For example, the global financial crisis of 2008 caused long-term market turbulence, resulting in significant stock price volatility over several years. Long-term volatility

is crucial for investment decisions, especially for long-term investors who tend to focus on overall market trends rather than short-term price fluctuations.

### **Short-Term Volatility**

Short-term volatility refers to drastic price fluctuations within a shorter time frame, such as a day, week, or month. Short-term volatility is typically driven by short-term market information, investor sentiment swings, and unexpected events. This type of volatility is more easily influenced by market sentiment, as investors may make irrational trading decisions in response to uncertain information.

Short-term volatility can benefit short-term traders and speculators who seek to profit from quick price movements. However, for ordinary investors, short-term volatility can represent higher investment risks, especially during abnormal market fluctuations, when it can be challenging to make the right investment decisions (Pástor & Stambaugh, 2003).

### **Abnormal Volatility**

Abnormal volatility refers to extreme price fluctuations in the stock market over a short period, often deviating from normal market operations. This type of volatility is usually triggered by sudden, uncertain external events, such as wars, natural disasters, political instability, and economic crises. When abnormal volatility occurs, stock prices may experience drastic rises or falls in a short time, and investors' panic may further exacerbate market fluctuations.

For instance, the outbreak of COVID-19 in 2020 led to abnormal and severe fluctuations in global stock markets. Concerns about the economic outlook and the lockdown measures implemented by governments caused extreme tension in market sentiment, resulting in sharp declines in stock markets worldwide. This kind of abnormal volatility not only causes significant impacts on investors' assets but also poses a threat to the overall stability of the market.

## **2.4. Causes of Stock Market Volatility**

Stock market volatility is influenced by a combination of factors, including the macroeconomic environment, market psychology, policy changes, industry developments, and unexpected events.

**Macroeconomic Factors:** Macroeconomic factors such as economic growth, interest rates, inflation rates, and unemployment rates directly impact the stock market. When economic data perform well, the market tends to exhibit relatively low volatility, as investors are more optimistic about the economic outlook. Conversely, poor economic data may lead to greater market volatility (Nelson, 1991).

**Market Psychology and Sentiment:** Investors' market expectations and psychological states are key factors affecting volatility. In a bull market, investor confidence is high, and market volatility is lower. In contrast, in a bear market or during times of heightened uncertainty, investors become more sensitive, leading to increased price volatility.

**Policy Changes:** Government policy adjustments, especially those related to monetary, fiscal, and trade policies, often have a significant impact on market volatility. For example, when a central bank announces an interest rate hike, the market may expect higher capital costs, causing stock prices to fall. Conversely, when governments introduce policies to stimulate the economy, market volatility may decrease.

**Industry-Specific Factors:** Different industries are sensitive to external conditions to varying degrees, meaning that stock price volatility in certain sectors may be higher than in others. For instance, the technology and energy sectors tend to exhibit higher volatility because they face multiple pressures, including technological innovation, market demand changes, and policy adjustments.

**Unexpected Events:** Events such as wars, natural disasters, and public health crises can have significant effects on the stock market. In such situations, investors may sell off stocks due to a flight to safety, leading to a surge in market volatility.

**Table 2: Causes of Stock Market Volatility**

Cause	Description
<b>Macroeconomic Factors</b>	Factors like economic growth, interest rates, inflation, and unemployment directly impact market volatility. Good data lowers volatility, poor data increases it.
<b>Market Psychology and Sentiment</b>	Investor expectations and confidence influence volatility. High confidence in bull markets lowers volatility, while uncertainty increases it in bear markets.
<b>Policy Changes</b>	Government policies, especially monetary and fiscal decisions, affect volatility. Interest rate hikes increase volatility, while stimulus policies reduce it.
<b>Industry-Specific Factors</b>	Different industries face varying levels of volatility. For example, technology and energy sectors are more volatile due to innovation and demand shifts.
<b>Unexpected Events</b>	Events like wars, natural disasters, or health crises cause significant volatility as investors move to safer assets, leading to rapid price changes.

## 2.5. Impact of Stock Market Volatility

Stock market volatility has far-reaching impacts on investors, companies, and the entire financial market. High volatility signifies increased market risk, and the value of investors' portfolios can fluctuate drastically. This can shake investor confidence, especially during significant market downturns, when panic may exacerbate downward trends. For companies, drastic price fluctuations can affect their ability to raise funds. When market volatility is high, the cost of issuing new shares or other financing activities may rise, as investors demand higher risk premiums. Lastly, from a macro perspective, stock market volatility is closely tied to the stability of financial markets. Extreme fluctuations can negatively affect the balance sheets of financial institutions, posing risks to the stability of the financial system. (Schwert, 1989).

## 3. Factors Influencing Stock Market Volatility

Stock market volatility is influenced by a complex interplay of factors, including macroeconomic conditions, government policies, company-specific elements, industry trends, international events, investor behavior, and market structures. Each factor plays a critical role in shaping the level of uncertainty and risk in the market. Understanding these elements is crucial for investors and policymakers in managing risks and making informed decisions. (Black, 1976).



### 3.1. Macroeconomic Factors

#### 3.1.1. Economic Indicators

Key macroeconomic indicators such as Gross Domestic Product (GDP), inflation rate, employment rate, and interest rates have a direct impact on stock market volatility (Malkiel & Fama, 1970).

**GDP Growth:** A growing economy generally leads to higher corporate earnings, which boosts investor confidence and encourages investment in stocks, resulting in lower market volatility. Conversely, sluggish economic growth or a recession dampens investor sentiment and can lead to increased volatility as stock prices reflect the anticipated downturn in corporate profits.

**Inflation Rate:** Inflation affects the purchasing power of consumers and can erode corporate profits. When inflation is high, investors become concerned about the rising costs of goods and services, leading to a decrease in stock market value. Furthermore, central banks may respond to high inflation by raising interest rates, which can further increase volatility as borrowing costs rise and investment declines.

**Employment Rate:** A high employment rate signals economic strength, which boosts consumer spending and corporate profits. Conversely, rising unemployment can lead to lower consumer demand and negatively affect company performance, leading to stock price declines and heightened market volatility.

**Interest Rates:** Interest rates are a critical tool used by central banks to regulate the economy. When interest rates are low, borrowing is cheaper, stimulating investment and reducing market volatility. However, if interest rates are increased, the cost of borrowing rises, leading to decreased corporate profits and increased market volatility as investors adjust their portfolios.

#### 3.1.2. Macroeconomic Policies

Macroeconomic policies, particularly monetary and fiscal policies, play a significant role in regulating economic stability and affecting stock market behavior.

**Monetary Policy:** Central banks, such as the Federal Reserve or the European Central Bank, use monetary policy to control inflation and stabilize the economy. For example, during periods of economic slowdown, central banks may lower interest rates or increase money supply to stimulate growth, which can lower stock market volatility. On the other hand, during inflationary periods, tightening monetary policy by increasing interest rates can cause market volatility to spike as investors react to higher capital costs and reduced liquidity.

**Fiscal Policy:** Government spending and taxation policies also influence stock market volatility. Expansionary fiscal policies, such as increased government spending or tax cuts, can stimulate economic activity, reduce market uncertainty, and encourage stock price growth. However, restrictive fiscal policies may lead to higher market volatility, especially if they dampen economic growth prospects.

### 3.2. Policy Factors

#### 3.2.1. Government Policies and Decisions

Government policies, particularly those related to securities regulation and monetary control, significantly impact the stock market. Regulations imposed by securities commissions, such as transparency requirements, insider trading laws, and market oversight, help ensure fairness and investor protection, reducing volatility. However, excessive regulation or sudden policy

changes can introduce uncertainty into the market, leading to higher volatility (Bollerslev, 1986).

**Monetary Policy:** As mentioned, central banks' decisions to adjust interest rates or manipulate the money supply have direct consequences on stock prices and market volatility. For instance, unexpected interest rate hikes may lead to a sharp drop in stock prices due to increased borrowing costs for companies.

### 3.2.2. Policy Uncertainty

Uncertainty regarding government policy can undermine investor confidence and amplify stock market volatility. For example, delays in the implementation of key economic reforms or unpredictable fiscal policies can lead to speculation, prompting large price swings.

One notable example of policy uncertainty occurred during the 2016 U.S. presidential election, where the uncertainty surrounding potential tax reforms, healthcare policies, and trade agreements led to heightened market volatility as investors weighed the possible outcomes of the election on economic stability.

## 3.3. Company-Specific Factors

### 3.3.1 Profitability and Financial Health

A company's profitability, financial health, and management decisions are crucial factors affecting its stock price and the overall market volatility. Investors closely monitor financial reports, earnings forecasts, and balance sheets to assess a company's performance (Engle & Ng, 1993).

**Profitability:** Companies that consistently report strong profits and revenue growth tend to experience less volatility in their stock prices. Conversely, companies with declining profits or inconsistent performance may see their stock prices fluctuate more widely as investors adjust their expectations.

**Financial Health:** A company's financial stability, including its debt levels, cash reserves, and liquidity, can significantly influence stock price movements. Firms with high levels of debt or cash flow problems may be more vulnerable to external shocks, leading to greater volatility in their stock prices.

### 3.3.2. Management Decisions and Market Competitiveness

The quality of a company's management and its competitive position in the market are also key factors that influence stock price volatility.

**Management Decisions:** Strategic decisions such as mergers and acquisitions, new product launches, or changes in leadership can result in short-term stock price volatility as investors evaluate the potential impact of these actions on the company's future growth and profitability.

**Market Competitiveness:** Companies operating in highly competitive industries may experience greater volatility due to the constant pressure to innovate and outperform rivals. For instance, the technology sector often experiences higher volatility as firms compete to stay ahead in rapidly evolving markets (Forbes & Rigobon, 2002).

### 3.4. Industry Trends and Consumer Demand

#### 3.4.1. Industry Performance

The performance of different industries has a considerable impact on stock market volatility. Some sectors are more sensitive to external economic conditions, such as the energy, financial, and technology sectors (Glosten et al., 1993).

**Energy Sector:** Volatility in oil prices can significantly affect the stock prices of companies in the energy sector, with price fluctuations often tied to geopolitical tensions or shifts in global demand.

**Technology Sector:** Rapid innovation and fierce competition in the tech industry can lead to higher stock price volatility. Investors closely watch technological advancements, regulatory changes, and market demand to determine future growth prospects.

#### 3.4.2. Consumer Demand Changes

Shifts in consumer demand can alter the profitability of entire industries, affecting stock prices and market volatility. For example, the rise of e-commerce has disrupted traditional retail, leading to significant stock price movements in companies that were slow to adapt to changing consumer preferences.

### 3.5. International Factors

Global economic events, such as financial crises, international trade policies, and geopolitical conflicts, can have significant ripple effects on stock markets worldwide.

**Financial Crises:** Global financial crises, such as the 2008 financial meltdown, led to widespread market volatility as investors reacted to fears of economic collapse and a loss of confidence in the banking system.

**Trade Policies:** Changes in international trade agreements or the imposition of tariffs can increase market volatility, particularly in sectors that rely heavily on exports or imports. For instance, the U.S.-China trade war caused significant stock market volatility as companies and investors adjusted to changing trade conditions.

**Capital Flows:** Large movements of foreign investment in and out of a country can lead to fluctuations in stock prices, particularly in emerging markets where foreign capital plays a critical role in market liquidity.

**Exchange Rates:** Fluctuations in currency values can affect the profitability of multinational corporations, influencing their stock prices. For example, a stronger U.S. dollar may negatively impact companies that rely on exporting goods, leading to stock price declines.



**Table 3: Factors Influencing Stock Market Volatility**

Category	Factors	Impact
Macroeconomic Factors	Economic Indicators	GDP growth, inflation, jobs, and interest rates affect stock market swings.
	Monetary Policy	Central banks control interest rates, impacting market stability.
	Fiscal Policy	Government spending and taxes can reduce or increase market uncertainty.
Policy Factors	Government Policies	Regulations can stabilize or cause volatility in the market.
	Policy Uncertainty	Unclear or delayed policies lead to unpredictable stock price changes.
Company-Specific Factors	Profitability & Financial Health	Profitable companies are less volatile; struggling ones fluctuate more.
	Management Decisions	Leadership changes and competition affect stock prices.
Industry Trends	Industry Performance	Energy, tech, and finance sectors are more sensitive to market conditions.
	Consumer Demand	Changes in what people buy can cause stock prices to move.
International Factors	Global Events	Crises, trade changes, and currency shifts can cause market-wide volatility.

## 4. Investment Strategies and Risk Control

### 4.1. Investment Strategy Suggestions:

**Diversification:** Spread investments across various securities to reduce the risk associated with any single market or industry. By diversifying, an investor can balance losses in one area with gains in another, minimizing the overall risk (Wang & Zhang, 2009).

**Long-Term Holding:** Avoid frequent trading to lower transaction costs and achieve more stable, average returns over time. Long-term investing reduces the impact of short-term market fluctuations and allows investments to grow.

**Regular Investment Plan:** This approach involves regularly investing a fixed amount in funds or stocks, regardless of market conditions. Known as dollar-cost averaging, it helps reduce the average cost of investments and is particularly suitable for salaried individuals.

**Focus on Fundamentals:** Invest in companies with solid financials and strong growth potential, rather than following trends or speculative advice. Sound fundamental analysis can help identify companies with long-term prospects.

## 4.2. Importance of Risk Control and Specific Methods

**Importance:** Risk control is an essential part of the investment process. In volatile markets, effective risk management can help investors minimize losses and seize potential opportunities. Ignoring risk control can result in significant losses, or even bankruptcy, during periods of market turbulence.

### Specific Methods

**Set Stop-Loss Points:** Before making an investment, set a reasonable stop-loss point. If the market reaches this point, sell immediately to avoid further losses. This is a simple yet effective way to protect capital during downturns.

**Diversification:** As mentioned, diversification reduces risk by spreading investments across various markets or industries. If one sector performs poorly, gains in other sectors can offset those losses, maintaining balance in the portfolio.

**Regular Portfolio Evaluation:** Periodically review your portfolio and make adjustments based on market conditions and your risk tolerance. Avoid holding high-risk assets if they no longer align with your investment goals or risk appetite.

**Stay Calm:** Market fluctuations are inevitable, and it's important to remain calm during these times. Emotional reactions, such as fear or greed, can lead to overtrading and unnecessary losses. Keeping a cool head helps investors make rational decisions.

**Monitor Policy Changes:** Keep an eye on government policy changes and understand their potential impact on the market. Policies related to interest rates, taxes, or trade can significantly affect market conditions, and timely adjustments to your strategy may be necessary to manage risks.

In conclusion, by analyzing representative stock market volatility events, investors can gain insights into the background, causes, and reactions of the market. Armed with this knowledge, they can develop well-informed investment strategies and implement effective risk control measures to address the challenges posed by market volatility.

## 5. Conclusion and Suggestions

### 5.1. Main Influencing Factors and Mechanisms of Stock Market Volatility

This study, through in-depth analysis of stock market volatility events, summarizes the main factors influencing stock market volatility, including macroeconomic conditions, policy changes, market sentiment, financial derivative risks, and international economic situations. These factors, through various mechanisms such as affecting corporate profit expectations, changing investor risk appetites, and triggering market panic sentiment, jointly act on the stock market, leading to price fluctuations.

### 5.2. Importance and Practical Significance of Studying Stock Market Volatility

Studying stock market volatility is not only significant for understanding market behavior and predicting market trends but also holds important practical implications for governments formulating policies, investors devising investment strategies, and financial regulatory agencies implementing supervision. Firstly, understanding stock market volatility aids governments in promptly identifying market risks and formulating effective policy measures to stabilize the market. Secondly, for investors, grasping the laws of stock market volatility

helps improve the scientificity and accuracy of investment decisions, reducing investment risks. Lastly, financial regulatory agencies can monitor stock market volatility to promptly detect and address abnormal market fluctuations, maintaining market order and investor interests.

### 5.3. Policy Suggestions

#### 5.3.1. Suggestions for Governments to Formulate Policies to Stabilize the Stock Market

**Strengthen Macroeconomic Regulation and Control:** Governments should closely monitor macroeconomic conditions and, through adjustments to monetary and fiscal policies, maintain stable economic growth and reduce market volatility.

**Improve Information Disclosure Systems:** Enhance market transparency and strengthen the supervision of information disclosure by listed companies to ensure investors can obtain market information timely and accurately, reducing information asymmetry-induced market volatility.

**Establish Risk Early Warning Mechanisms:** Construct a stock market risk early warning system to monitor market risks in real-time, promptly detect and address potential risk points, preventing risk diffusion and escalation.

**Strengthen Investor Education:** Improve investors' financial literacy and risk awareness, guiding them to invest rationally and avoiding blind following and the spread of market panic sentiment.

#### 5.3.2. Emphasize the Importance of Strengthening Financial Regulation and Investor Protection

Financial regulatory agencies should strengthen the supervision of financial institutions and markets to prevent financial risks and maintain market order. Simultaneously, a sound investor protection mechanism should be established to strengthen the protection of investors' legitimate rights and interests, enhancing investors' confidence and stability in the market.

### 5.4. Future Research Directions

**Quantitative Analysis of Factors Influencing Stock Market Volatility:** Utilize econometric methods to conduct quantitative analysis on the factors influencing stock market volatility, exploring the specific impact degree and contribution of each factor to market volatility.

**Study the Cross-Country Transmission Mechanism of Stock Market Volatility:** With the deepening of globalization, the linkage between stock markets of various countries is increasingly enhanced. Future research can further explore the cross-country transmission mechanism of stock market volatility, providing a theoretical basis for formulating international financial regulatory policies.

**Use Big Data and Artificial Intelligence to Predict Market Volatility:** With the continuous development of big data and artificial intelligence technologies, future research can employ these technologies for in-depth mining and analysis of market data, improving the accuracy and timeliness of market predictions.

**Study the Relationship Between Stock Market Volatility and the Real Economy:** As an important financing channel for the real economy and an important window reflecting the status of the real economy, stock market volatility has a significant impact on the real economy.

Future research can further explore the relationship between stock market volatility and the real economy, providing a scientific basis for formulating macroeconomic policies.

## References

- Andersen, T. G., Bollerslev, T., Diebold, F. X., & Labys, P. (2003). Modeling and forecasting realized volatility. *Econometrica*, 71(2), 579-625. <https://doi.org/10.1111/1468-0262.00418>
- Bekaert, G., & Harvey, C. R. (1995). Time-varying world market integration. *The Journal of Finance*, 50(2), 403-444. <https://doi.org/10.1111/j.1540-6261.1995.tb04782.x>
- Campbell, J. Y., Lettau, M., Malkiel, B. G., & Xu, Y. (2001). Have individual stocks become more volatile? An empirical exploration of idiosyncratic risk. *The Journal of Finance*, 56(1), 1-43. <https://doi.org/10.1111/0022-1082.00318>
- Choudhry, T. (2001). Inflation and rates of return on stocks: Evidence from high inflation countries. *Journal of International Financial Markets, Institutions and Money*, 11(1), 75-96. [https://doi.org/10.1016/S1042-4431\(00\)00048-5](https://doi.org/10.1016/S1042-4431(00)00048-5)
- French, K. R., Schwert, G. W., & Stambaugh, R. F. (1987). Expected stock returns and volatility. *Journal of Financial Economics*, 19(1), 3-29. [https://doi.org/10.1016/0304-405X\(87\)90026-2](https://doi.org/10.1016/0304-405X(87)90026-2)
- Engle, R. F. (1982). Autoregressive conditional heteroscedasticity with estimates of the variance of United Kingdom inflation. *Econometrica*, 50(4), 987-1007. <https://doi.org/10.2307/1912773>
- Chwert, G. W. (1989). Why does stock market volatility change over time? *The Journal of Finance*, 44(5), 1115-1153. <https://doi.org/10.1111/j.1540-6261.1989.tb02647.x>
- Pástor, L., & Stambaugh, R. F. (2003). Liquidity risk and expected stock returns. *Journal of Political Economy*, 111(3), 642-685. <https://doi.org/10.1086/374184>
- Black, F. (1976). Studies of stock market volatility changes. *Proceedings of the American Statistical Association, Business and Economic Statistics Section*, 177-181.
- Nelson, D. B. (1991). Conditional heteroskedasticity in asset returns: A new approach. *Econometrica*, 59(2), 347-370. <https://doi.org/10.2307/2938260>
- Malkiel, B. G., & Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *The Journal of Finance*, 25(2), 383-417. <https://doi.org/10.1111/j.1540-6261.1970.tb00518.x>
- Bollerslev, T. (1986). Generalized autoregressive conditional heteroscedasticity. *Journal of Econometrics*, 31(3), 307-327. [https://doi.org/10.1016/0304-4076\(86\)90063-1](https://doi.org/10.1016/0304-4076(86)90063-1)
- Engle, R. F., & Ng, V. K. (1993). Measuring and testing the impact of news on volatility. *The Journal of Finance*, 48(5), 1749-1778. <https://doi.org/10.1111/j.1540-6261.1993.tb05127.x>
- Mandelbrot, B. B. (1963). The variation of certain speculative prices. *The Journal of Business*, 36(4), 394-419. <https://doi.org/10.1086/294632>
- Forbes, K. J., & Rigobon, R. (2002). No contagion, only interdependence: Measuring stock market comovements. *The Journal of Finance*, 57(5), 2223-2261. <https://doi.org/10.1111/0022-1082.00494>
- Wang, J., & Zhang, Z. (2009). Stock market volatility and risk premium in emerging markets: Evidence from China. *Journal of Chinese Economic and Business Studies*, 7(4), 313-324. <https://doi.org/10.1080/14765280903417345>
- Glosten, L. R., Jagannathan, R., & Runkle, D. E. (1993). On the relation between the expected value and the volatility of the nominal excess return on stocks. *The Journal of Finance*, 48(5), 1779-1801. <https://doi.org/10.1111/j.1540-6261.1993.tb05128.x>

- Ho, R. Y., & Zhu, Z. Y. (2004). An analysis of stock market volatility using high-frequency data. *Journal of Empirical Finance*, 11(2), 309-327. <https://doi.org/10.1016/j.jempfin.2002.12.003>
- Liu, W., & Zhang, W. (2008). Time-varying risk premia and stock market volatility in emerging economies. *Emerging Markets Review*, 9(2), 88-103. <https://doi.org/10.1016/j.ememar.2008.01.003>
- Guo, H. (2002). Stock market returns, volatility, and future output. *Economics Letters*, 76(3), 471-476. [https://doi.org/10.1016/S0165-1765\(02\)00086-0](https://doi.org/10.1016/S0165-1765(02)00086-0).