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The Effect of Firm Value, Free Float, and Ownership Concentration on Stock Volatility: A Systematic Literature Review

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Abstract: This study examines the relationships between firm value, free float, and ownership concentration and stock volatility to clarify how firm fundamentals and ownership structures shape stock market risk. It aims to develop conceptual hypotheses for subsequent empirical research through a synthesis of prior studies. The study adopts a library research design using a Systematic Literature Review (SLR) approach. Literature was retrieved from Google Scholar, journal publisher websites, article DOIs, e-books, and other online academic databases; Mendeley was used to manage references. The selected studies were analyzed descriptively and qualitatively, with evidence classified as direct, indirect, or conditional. The review indicates that: (1) firm value is associated with stock volatility through market valuation, growth opportunities, and information uncertainty; (2) free float may influence stock volatility through liquidity, market depth, and the availability of publicly tradable shares; and (3) ownership concentration may influence stock volatility through monitoring mechanisms, information asymmetry, minority shareholder protection, and trading structure. Direct evidence for free float and ownership concentration remains limited; therefore, both relationships require further empirical examination.

Keyword: Firm Value, Free Float, Ownership Concentration, Stock Volatility, Systematic Literature Review.

INTRODUCTION

Stock volatility is a key indicator of market risk because it captures the magnitude of changes in stock returns over time. Elevated volatility can heighten investor uncertainty, affect the cost of capital, and increase price sensitivity to new information. Existing literature indicates that volatility is shaped by market factors, macroeconomic conditions, and firm-specific characteristics (Engle, 1982; Schwert, 1989).

At the firm level, firm value may reflect asset quality, growth prospects, and the credibility of information received by the market. Firms with stronger market valuations may face lower information uncertainty, yet substantial growth opportunities can also make stock prices more sensitive to changes in investor expectations. Accordingly, the relationship between firm value

and stock volatility requires empirical testing and cannot be presumed to operate in only one direction (Shin & Stulz, 2000; Ai & Kiku, 2016; Primacintya et al., 2026).

In addition to firm fundamentals, the proportion of shares available to the public and the shareholder structure may shape trading processes and price formation. A larger free float may improve liquidity and market depth, whereas ownership concentration can strengthen monitoring yet may also exacerbate information asymmetry or reduce the volume of actively traded shares (Ding et al., 2016; Jankensgård & Vilhelmsson, 2018; Brockman et al., 2009).

Prior findings are not fully consistent because they employ different proxies, countries, periods, and empirical designs. Evidence on free float and ownership concentration also frequently appears through indirect channels, such as liquidity, trading activity, or moderating effects. Therefore, a systematic literature review is needed to map the available evidence, differentiate each study's proximity to the proposed hypotheses, and formulate an agenda for subsequent empirical research. Against this background, this article aims to develop hypotheses for subsequent research by:

1. Examining the effect of firm value on stock volatility.
2. Examining the effect of free float on stock volatility.
3. Examining the effect of ownership concentration on stock volatility.

METHOD

This article employs a library research design using a Systematic Literature Review (SLR) approach. The SLR was used to identify, appraise, and synthesize relevant research evidence systematically according to predefined review questions (Kitchenham & Charters, 2007; Kitchenham et al., 2009).

The review questions focused on three pathways: firm value and stock volatility, free float and stock volatility, and ownership concentration and stock volatility. The review process comprised the specification of review questions, literature searching, screening against inclusion and exclusion criteria, data extraction, and narrative synthesis. Studies that addressed only indirect pathways were retained but classified as indirect evidence and were not treated as direct causal tests.

The search was conducted through Google Scholar, journal publisher websites, article DOIs, and other online academic databases. Keywords included “firm value,” “Tobin’s Q,” “stock volatility,” “return volatility,” “free float,” “public float,” “ownership concentration,” “block ownership,” and “shareholder concentration.” Keyword combinations were constructed using Boolean operators, including “firm value” AND “stock volatility,” “free float” AND “return volatility,” and “ownership concentration” AND “stock volatility.”

The inclusion criteria covered studies that addressed one or more of the focal variables, had a conceptual or empirical relationship with stock volatility, specified variable proxies and research methods, were traceable through credible academic sources, and were available in Indonesian or English. Duplicate records, studies without a clear method, studies unrelated to capital markets, and studies addressing only stock price levels without a risk or volatility measure were excluded from the principal synthesis. Seminal literature was used selectively to develop the theoretical foundation.

Data from the selected studies were extracted into a review matrix containing the author, publication year, country or sample, variable proxies, analytical method, key findings, direction of the relationship, and study limitations. The data were then analyzed through narrative synthesis by comparing direct, indirect, and conditional evidence for each pathway to stock volatility.

The analysis is exploratory and does not undertake a meta-analysis or estimate pooled effect sizes. This choice reflects the heterogeneity of the reviewed studies in terms of proxies, observation periods, country samples, and statistical methods. Accordingly, the review is used

to develop theoretical arguments and hypotheses rather than to claim universal causality (Ali & Limakrisna, 2013).

The review reporting follows the transparency principles of PRISMA 2020, particularly the stages of identification, screening, eligibility assessment, and study inclusion. At the final manuscript stage, the number of records at each stage should be reported in a PRISMA flow diagram based on the actual search records (Page et al., 2021).

RESULTS AND DISCUSSION

Results

The review findings are presented in four sections: the concepts and measures of stock volatility, firm value, free float, and ownership concentration; these are followed by a mapping of relevant studies and a synthesis for hypothesis development.

Stock Volatility

Stock volatility refers to the dispersion or variability of stock returns over time and reflects price uncertainty and market risk. From the perspective of Modern Portfolio Theory, investment risk is commonly proxied by the variance or standard deviation of returns; greater return variation indicates higher risk for investors (Markowitz, 1952). Thus, stock volatility captures not merely upward or downward price movements but the intensity of stock price instability during a given observation period.

Under conditional volatility theory, stock risk is dynamic and changes in response to market information, economic conditions, and firm characteristics. The ARCH model introduced by Engle (1982) shows that return variance may exhibit volatility clustering, whereby periods of high volatility tend to be followed by further periods of high volatility. Bollerslev (1986) subsequently developed the GARCH model to capture volatility persistence. Accordingly, stock volatility can be understood as a time-varying market risk influenced by both historical information and newly released information.

Stock volatility can be measured through the standard deviation of daily, weekly, or monthly returns; return variance; historical volatility; conditional volatility estimated using ARCH, GARCH, EGARCH, or GJR-GARCH models; and range-based measures derived from the highest and lowest share prices. In capital market studies, the standard deviation of returns is widely used because it captures the dispersion of observed returns around their mean. GARCH models are appropriate when the objective is to model time-varying risk, whereas high-low price-range measures are useful when the focus is on intraperiod price fluctuations (Engle, 1982; Bollerslev, 1986; Schwert, 1989).

Stock volatility has been examined from market-based, firm-fundamental, financial-policy, and ownership-structure perspectives. Schwert (1989) showed that stock market volatility is related to leverage, economic activity, and macroeconomic variables. Dutt and Humphery-Jenner (2013) found that operating performance and valuation characteristics explain variations in stock return volatility. Jankensgård and Vilhelmsson (2018) reported that a more diversified shareholder base is associated with lower stock return volatility. In Indonesia, Viratama et al. (2022) examined free float and volatility as determinants of stock liquidity, whereas Fithriyana et al. (2025) showed that firm fundamentals contribute to variation in stock return volatility.

Firm Value

Firm value reflects the market's assessment of a firm's capacity to generate future cash flows, earnings, growth, and shareholder wealth. Tobin's Q theory conceptualizes firm value as the ratio of a firm's market value to the replacement cost of its assets. A higher Tobin's Q indicates that the market values a firm's assets more highly than their book value, suggesting stronger growth prospects and value-creation capacity (Tobin, 1969; Hayashi, 1982).

Firm value can also be interpreted through signaling theory and information asymmetry. Information on profitability, growth, governance quality, stock liquidity, and ownership structure can signal a firm's prospects to investors. When the market perceives corporate information as credible and prospects as favorable, stock prices tend to rise and firm value increases accordingly. Conversely, opaque information, conflicts of interest, or high uncertainty may reduce the market's valuation of the firm (Merton, 1987; Fang et al., 2009).

The primary proxy for firm value in this study is Tobin's Q. Operationally, Tobin's Q can be calculated as the ratio of the market value of equity plus the book value of debt to total assets. Prior studies have also used the market-to-book ratio, price-to-book ratio, market capitalization, and price-earnings ratio to capture the market's valuation of a firm. Nevertheless, Tobin's Q is particularly relevant because it integrates market information and asset values, making it suitable as a proxy for firm value and a mediating variable.

Firm value has been extensively examined in relation to liquidity, ownership structure, corporate governance, and stock risk. Fang et al. (2009) found a positive association between stock market liquidity and firm value. Lins (2003) showed that the presence of nonmanagerial blockholders can improve firm value, particularly in environments with weak investor protection. Claessens et al. (2002) demonstrated that controlling shareholders' cash-flow rights can increase firm value, whereas excess control rights can reduce firm value through entrenchment effects. Shin and Stulz (2000), Ai and Kiku (2016), and Primacintya et al. (2026) indicate that firm value, growth opportunities, risk, and stock volatility are interrelated through firm characteristics and governance mechanisms.

Free Float

Free float refers to the proportion of a firm's shares that is available for public trading and is not held by controlling shareholders, management, government entities, or other strategic investors. From the perspective of market liquidity theory, a larger pool of publicly tradable shares increases the likelihood of transactions, efficient price formation, and market depth. These conditions can reduce transaction costs and lower barriers to investors entering or exiting a stock position (Kyle, 1985; Amihud, 2002).

From the perspective of the Investor Recognition Hypothesis, a larger free float broadens the investor base that can own and trade a firm's shares. Firms with higher free float may attract wider investor recognition, improve liquidity, and reduce their cost of capital. However, the relationship between free float and volatility is not necessarily linear. A larger free float may stabilize prices through liquidity and market depth, but it can also increase price sensitivity when trading is dominated by short-term investors or excessive retail-investor attention (Merton, 1987; Ding et al., 2016).

The primary indicator of free float is the percentage of publicly held shares that are available for trading relative to total shares outstanding. It can be measured by dividing the number of free-float shares by total shares outstanding and multiplying the result by 100 percent. Empirical measurement should distinguish shares that are genuinely tradable from shares held by controlling shareholders, directors, commissioners, government entities, strategic investors, or holders subject to trading restrictions. This classification is important because free float is not simply public ownership; it is the effective availability of shares for trading activity.

Free float has been examined in relation to liquidity, trading activity, and stock volatility. Using an international panel, Ding et al. (2016) found that higher free float increases market liquidity. Chan et al. (2004) showed that changes in free float resulting from government intervention in Hong Kong affected stock liquidity. Brockman et al. (2009) found that block ownership reduces trading activity and impairs liquidity, making it relevant as the counterpart of dispersed shareholdings. Jankensgård and Vilhelmsson (2018) reported that a more dispersed shareholder base tends to be associated with lower stock return volatility. In the Indonesian

Stock Exchange context, Viratama et al. (2022) examined free float and volatility as determinants of stock liquidity; the study did not test the direct effect of free float on volatility.

Ownership Concentration

Ownership concentration refers to the degree to which a firm's shares are controlled by one or several largest shareholders. Under agency theory, ownership concentration can reduce conflicts between shareholders and managers because large shareholders have the incentives and capacity to conduct more effective monitoring. Controlling shareholders can curb managerial opportunism, strengthen management discipline, and encourage decisions oriented toward enhancing firm value (Jensen & Meckling, 1976; Shleifer & Vishny, 1986).

However, ownership concentration can also produce adverse effects through agency conflicts between controlling and minority shareholders. When controlling shareholders' control rights substantially exceed their cash-flow rights, the risk arises of private-benefit extraction, inappropriate related-party transactions, and expropriation of minority shareholders. This condition is known as the entrenchment effect. Consequently, the effect of ownership concentration on firm value and stock volatility may be positive or negative, depending on investor protection, corporate governance quality, and the structure of control rights (Claessens et al., 2002; La Porta et al., 2002).

Ownership concentration can be measured by the ownership percentage of the largest shareholder, the combined ownership of the three or five largest shareholders, or an ownership-based Herfindahl-Hirschman Index. In firms with complex ownership structures, measurement should account for the ultimate owner, cash-flow rights, voting rights, and the wedge between control and cash-flow rights. Ownership concentration must also be distinguished from ownership type, such as institutional, foreign, managerial, or state ownership, because the identity of an owner does not automatically indicate the degree of share concentration.

Ownership concentration has been widely examined in relation to firm value and stock volatility. Lins (2003) found that nonmanagerial blockholders are associated with firm value in emerging markets. Claessens et al. (2002) distinguished the incentive effects of cash-flow rights from the entrenchment effects of excess control rights. Li et al. (2015) showed that the effectiveness of board independence in improving corporate performance depends on ownership concentration. In the volatility context, Phan and Tran (2019) found that ownership structure moderates the relationship between dividend policy and stock price volatility. Li et al. (2011) and Chen et al. (2013) showed that large foreign or institutional ownership is related to return volatility, whereas Hu and Sun (2025) demonstrated the moderating role of ownership concentration in the relationship between retail investor attention and stock return volatility.

Review of Relevant Studies

Table 1 summarizes the studies most relevant to the development of the three hypotheses. Each study is compared in terms of its construct, proxy, findings, and degree of proximity to the hypothesized relationship specified in this article.

Table 1. Study Overview

No	Author (Year)	Prior Research Findings	Similarity to the Present Study	Difference from the Present Study	H
1	Primacintya et al. (2026)	Firm value, proxied by Tobin's Q, had a negative and statistically significant effect on stock price volatility among nonfinancial firms in Indonesia; ESG performance moderated this relationship.	Both examine the relationship between firm value/Tobin's Q and stock volatility.	The prior study includes ESG performance as a moderator and focuses on Indonesian firms; this article synthesizes cross-study evidence on the direct H1 relationship.	H1
2	Dutt & Humphery-	Operating performance and firm valuation characteristics explain	Both link firm value/valuation characteristics to stock volatility.	Valuation is not exclusively proxied by Tobin's Q, and the model includes operating	H1

No	Author (Year)	Prior Research Findings	Similarity to the Present Study	Difference from the Present Study	H
	Jenner (2013)	variations in stock return volatility in an international sample.		performance; this article focuses on firm value (Tobin's Q) as the focal construct.	
3	Jankensgård & Vilhelmsson (2018)	A more diversified shareholder base is associated with lower stock return volatility.	Both consider share dispersion/free float as a factor related to stock volatility.	This study uses shareholder-base dispersion rather than the official percentage of free float; this article focuses on free float as the primary proxy.	H2
4	Ding, Ni, & Zhong (2016)	A higher free float increases market liquidity in a 55-country sample. Liquidity is a potential channel through which stock prices may be stabilized, but the study does not test a direct effect on volatility.	Both discuss the role of free float in market mechanisms associated with stock volatility.	The prior study is limited to the free float → liquidity pathway and does not test a direct effect on volatility; this article explicitly considers H2.	H2
5	Phan & Tran (2019)	Ownership structure moderates the relationship between dividend policy and stock price volatility in Vietnam, an emerging market.	Both position ownership structure/concentration within the stock-volatility literature.	Ownership concentration is specified as a moderator rather than a direct explanatory variable; this article focuses on the direct H3 relationship.	H3
6	Hu & Sun (2025)	Ownership concentration moderates the effect of retail investor attention on stock return volatility in China.	Both examine the role of ownership concentration in changes in stock return volatility.	The focus is the interaction between retail investor attention and ownership concentration; this article frames the direct effect as a hypothesis requiring empirical testing.	H3

Discussion

The discussion integrates theoretical mechanisms and empirical evidence to explain how each variable may relate to stock volatility. The synthesis differentiates direct evidence, indirect evidence through liquidity or trading activity, and conditional evidence through moderating mechanisms. This distinction is important to ensure that hypothesis development does not exceed the available empirical support.

1. The Effect of Firm Value on Stock Volatility

The relationship between firm value and stock volatility stems from the information embedded in a firm's market valuation. Firm value, commonly proxied by Tobin's Q, reflects investor assessments of assets, growth prospects, cash-flow-generating ability, and managerial decision quality. Firms with stronger market valuations and credible fundamental information may face lower information uncertainty. However, high-Tobin's Q firms may also hold substantial growth options, making their stock prices more responsive to revisions in investor expectations and market conditions (Shin & Stulz, 2000; Ai & Kiku, 2016).

Firm value may affect stock volatility because changes in market assessments of a firm's prospects are reflected directly in stock prices. When firm value is perceived favorably through robust financial performance, credible growth prospects, and high disclosure quality, investors have a clearer basis for forming expectations. This may reduce volatility arising from information uncertainty. Conversely, low or unstable firm value, or a lack of adequate information, may prompt stronger market reactions and larger price fluctuations. The direction of the relationship is not necessarily negative, however, because firms with substantial growth opportunities may also exhibit higher volatility risk.

To manage stock volatility by enhancing firm value, management should strengthen the firm's fundamentals. This includes sustaining profitability, managing leverage, improving asset efficiency and earnings quality, maintaining investment discipline, and providing transparent disclosure of material information. Management cannot directly control stock prices; however,

it can reduce investor uncertainty by communicating financial information and strategic priorities consistently, promptly, and verifiably.

The most direct empirical support for this pathway comes from Primacintya et al. (2026), who found that Tobin's Q has a negative and statistically significant effect on stock price volatility among nonfinancial firms in Indonesia. Dutt and Humphery-Jenner (2013) showed that operating performance and valuation characteristics explain variation in stock return volatility, while Shin and Stulz (2000) and Ai and Kiku (2016) provide the theoretical basis for the link among value, risk, and growth opportunities. Accordingly, firm value is a suitable predictor of stock volatility in subsequent empirical research.

H1: Firm Value Affects Stock Volatility.

2. The Effect of Free Float on Stock Volatility

Free float is the proportion of shares available for public trading that is not controlled by controlling shareholders or strategic investors. It can increase invest-ability, market depth, the number of shares available for transactions, and trading liquidity. The larger the free float, the greater the scope for investors to buy and sell shares without generating extreme price movements. Free float can therefore function as a market mechanism influencing price stability.

Free float may influence stock volatility primarily through liquidity and trading activity. A larger free float generally increases trading volume and reduces the price impact of individual transactions. This may lower volatility because prices are formed in a deeper and more efficient market. Conversely, a smaller free float can make a stock more vulnerable to buying or selling pressure from a limited number of investors, resulting in sharper price changes. Nevertheless, a high free float does not necessarily reduce volatility when trading is dominated by short-term speculation or excessive retail-investor attention.

To manage stock volatility through free float, management should maintain an adequate public ownership structure, broaden the investor base, and improve the quality of investor communication. Firms should also ensure information disclosure, compliance with capital market regulations, and transparent corporate actions. Adequate free float must be accompanied by strong information governance; without disclosure quality, even liquid stocks may exhibit high volatility because of speculation and information asymmetry.

The reviewed evidence indicates that the relationship between free float and stock volatility operates primarily through liquidity, market depth, and the dispersion of the shareholder base. Jankensgård and Vilhelmsson (2018) found that a more diversified shareholder base is associated with lower return volatility. Ding et al. (2016) and Chan et al. (2004) provide evidence that free float increases or affects market liquidity, whereas Viratama et al. (2022) examined free float and volatility as determinants of stock liquidity in Indonesia. Because most evidence is indirect, H2 is positioned as a hypothesis requiring direct testing.

H2: Free Float Affects Stock Volatility.

3. The Effect of Ownership Concentration on Stock Volatility

Ownership concentration indicates the degree to which shares are controlled by the largest shareholder or a controlling shareholder group. From the agency theory perspective, ownership concentration can strengthen monitoring of management because large shareholders have economic incentives to protect firm value. Effective monitoring can reduce agency conflicts, increase managerial discipline, and lower information uncertainty in the market.

Ownership concentration may affect stock volatility through two competing mechanisms. First, it may reduce volatility when controlling shareholders perform monitoring effectively and promote better information disclosure. Second, it may increase volatility when controllers hold excessive power, information becomes more asymmetric, free float declines, or minority shareholders face expropriation risk. Therefore, the direction of the relationship between ownership concentration and stock volatility should be tested empirically rather than assumed to be uniformly positive or negative.

To manage stock volatility while considering ownership concentration, management should maintain a balance between the rights of controlling shareholders and the protection of minority shareholders. Required actions include strengthening independent commissioners, audit committees, transparency of related-party transactions, disclosure of ultimate ownership structures, and conflict-of-interest controls. High ownership concentration without robust governance mechanisms can create information risk and increase market uncertainty.

The reviewed evidence suggests that ownership concentration may influence volatility through monitoring, the availability of publicly tradable shares, and trading information, but the direction of the effect is not uniform. Jankensgård and Vilhelmsson (2018) provide evidence that a more dispersed shareholder base is associated with lower volatility. Phan and Tran (2019) and Hu and Sun (2025) identify ownership as a moderating condition, whereas Li et al. (2011) and Chen et al. (2013) address large foreign or institutional ownership. Therefore, H3 is formulated as a proposition requiring direct testing with a consistent proxy for ownership concentration.

H3: Ownership Concentration Affects Stock Volatility.

Research Conceptual Framework

Based on the research problem, theoretical review, and relevant prior studies, the conceptual framework is presented in Figure 1.

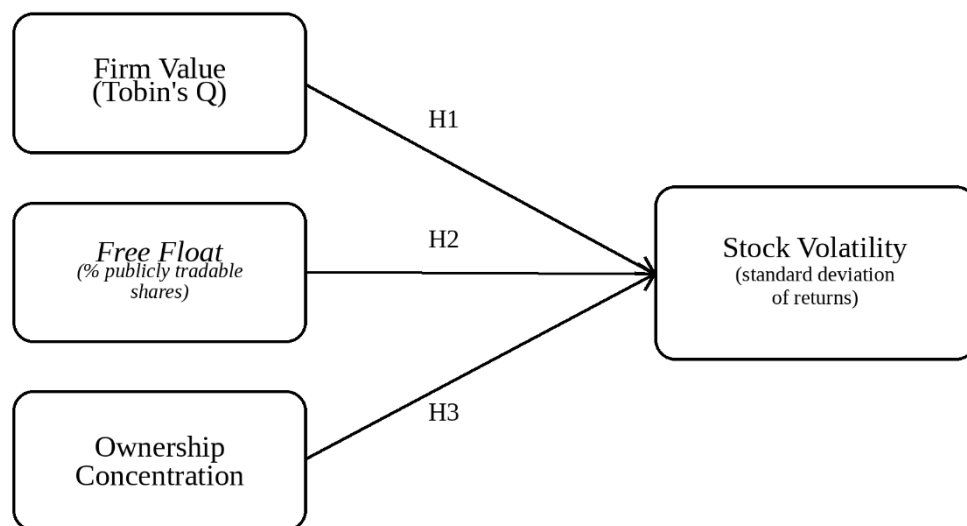


Figure 1: Conceptual Framework

Figure 1 positions firm value, free float, and ownership concentration as three exogenous variables expected to be associated with stock volatility. In addition to these variables, the literature identifies several other factors that may influence stock volatility, including:

1. **Leverage (X4):** Leverage, commonly proxied by the debt-to-equity ratio, debt-to-assets ratio, or other debt ratios, may affect stock volatility by increasing a firm's financial risk. Higher debt usage increases the sensitivity of equity value to changes in economic conditions and firm performance. This relationship is supported by Christie (1982), Schwert (1989), and Ahmed and Hla (2019).
2. **Dividend Policy (X5):** Dividend policy, commonly proxied by the dividend payout ratio and dividend yield, may affect stock volatility because dividends signal earnings stability, cash-flow prospects, and firm quality to investors. More favorable dividend yield and payout practices may reduce investor uncertainty and dampen stock price fluctuations. This relationship is supported by Baskin (1989), Hussainey et al. (2011), and Phan and Tran (2019).

3. Exchange Rate (X6): Exchange rates, particularly changes in or volatility of the Indonesian rupiah against the US dollar, may affect stock volatility through changes in import costs, export revenues, foreign-currency debt burdens, inflation, and investor expectations. Exchange-rate instability can increase market risk and generate larger stock price movements. This relationship is supported by Kanas (2000), Lim and Sek (2014), and Wasiaturrahma (2020).

Leverage, dividend policy, and exchange rates are not positioned as the primary variables in this conceptual framework. However, they are relevant as control variables in subsequent empirical research to reduce omitted-variable bias when estimating the effects of firm value, free float, and ownership concentration on stock volatility.

CONCLUSION

Based on the research objectives, literature synthesis, and discussion, this article formulates three hypotheses for testing in subsequent empirical research. The review does not assert definitive causality; rather, it provides a theoretical foundation and initial evidence for examining the relationships among the variables.

1. Firm Value Affects Stock Volatility. Firm value, as reflected in market valuation, growth opportunities, and the quality of firm fundamentals, is expected to influence the degree of uncertainty and stock price fluctuation.
2. Free Float Affects Stock Volatility. The proportion of shares available for public trading is expected to influence liquidity, market depth, and stock price sensitivity to buying and selling pressure.
3. Ownership Concentration Affects Stock Volatility. The degree of share control held by principal shareholders is expected to influence volatility through monitoring mechanisms, information quality, minority-shareholder protection, and the availability of publicly tradable shares.

Accordingly, firm value, free float, and ownership concentration are suitable as exogenous variables in subsequent research on stock volatility.

Recommendations

Several other factors may influence stock volatility, including leverage (X4), dividend policy (X5), and exchange rates (X6). Future research should incorporate these variables as additional predictors or controls, distinguish direct from indirect evidence, and test the model using panel data from listed firms and consistent measures of volatility.

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