

Liquidity Amplifies, Dividends Stabilize: Evidence from Stock Price Volatility in Indonesia's LQ45 Index

Arie Kusuma Dewa¹, Siti Sundari^{2*}

Faculty of Economics and Business, Universitas Pembangunan Nasional
"Veteran" Jawa Timur, Indonesia

Corresponding Author: Siti Sundari sitisundari.ak@upnjatim.ac.id

ARTICLE INFO

Keywords: Stock Price Volatility, Stock Liquidity, Dividend Yield, Behavioral Finance, Signaling Theory

Received : 16, July

Revised : 30, July

Accepted: 25, August

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ABSTRACT

This study investigates the effect of stock liquidity and market value ratio on stock price volatility among LQ45 firms listed on the Indonesia Stock Exchange from 2020 to 2023. Grounded in behavioral finance and signaling theory, the research employs a quantitative approach using Partial Least Squares Structural Equation Modeling (PLS-SEM) on 45 firm-year observations selected through purposive sampling. Stock liquidity, proxied by Trade Volume Activity, positively affects volatility, reflecting the role of investor sentiment and trading behavior. Conversely, Dividend Yield, representing market value ratio, negatively influences volatility by signaling financial stability. The findings provide practical implications for investors, corporate managers, and regulators aiming to reduce volatility and enhance transparency in Indonesia's capital market.

INTRODUCTION

The rapid rise of Fintech 4.0 has significantly transformed financial access in emerging markets, including Indonesia, by facilitating wider inclusion in capital markets. Platforms such as Ajaib, Stockbit, and IDX Mobile have simplified equity trading and significantly boosted retail investor engagement. According to Kustodian Sentral Efek Indonesia (KSEI), retail stock investors grew by approximately 276.4 percent between December 2020 and December 2024, with over 4.68 million new Single Investor Identifications (SID) issued (see Figure 1). This expansion highlights increased public interest in equities and demonstrates the ongoing democratization of capital market access.



Figure 1. Growth of Retail Stock Investors (Dec 2020-Dec 2024)

Source: www.ksei.co.id

The capital market serves as a critical platform for long-term securities transactions, connecting issuers and investors, particularly through stock trading initiated via Initial Public Offerings (IPOs) (Yoda & Dewinda, 2023). Stocks are increasingly popular for their potential returns through dividends and capital gains, though they carry risks, especially price volatility, which has become a growing concern in Indonesia's dynamic equity market. Investor participation is influenced by trading accessibility, liquidity, and the availability of fundamental analysis (Baralis et al., 2020; Rochim & Asiyah, 2022). In 2023, the Indonesia Stock Exchange (IDX) recorded 78 IPOs, the highest annual figure to date, surpassing the previous record set in 1990 (Wulandari, 2023). Accordingly, this study aims to identify the primary determinants of stock price volatility, with a focus on blue-chip equities.

Investor sentiment is among the key drivers of stock price movements (Xie et al., 2021). Positive news fosters bullish sentiment and price appreciation, while negative news triggers bearish sentiment and declining prices (Cevik et al., 2022). These shifts affect the demand-supply equilibrium, resulting in price fluctuations known as stock price volatility (Lotto, 2021). While standard deviation is widely used to measure volatility (Díaz-Bonilla, 2020), it assumes normality, which often misrepresents actual market behavior (Bakouch et al., 2021). This study adopts Parkinson's volatility estimator, a high-low price-based method recognized for its accuracy in liquid markets such as the LQ45, and introduces it as a novel

methodological contribution to Indonesian capital market research (Chou et al., 2020; Faldziński et al., 2020).

The LQ45 Index represents a group of blue-chip stocks on the Indonesia Stock Exchange, comprising 45 companies selected semiannually based on market capitalization, liquidity, and financial performance (Martini et al., 2021). This index is regarded as prestigious, as companies included or retained in the LQ45 are seen as adhering to sound and transparent business practices (Karamoy & Tasik, 2020). Empirical data from 2020 to 2023 indicates a declining pattern of stock price volatility among LQ45 constituents (see Figure 2).

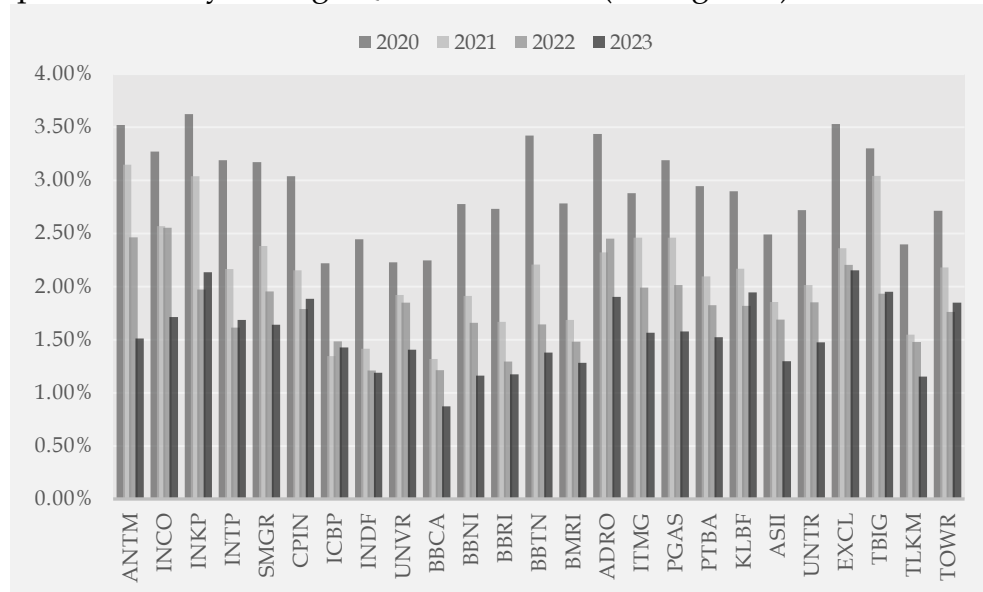


Figure 2. Stock Price Volatility of LQ45 Constituents (2020-2023)

Source: www.idx.co.id

For instance, INKP recorded the highest volatility in 2020 at 3.62%, while BBKA recorded the lowest in 2023 at 0.87%. This pattern suggests that the inherent characteristics of LQ45 constituents, particularly liquidity levels and financial indicators, may contribute to greater price stability, a relationship that requires further empirical investigation.

One factor that may influence stock price volatility is stock liquidity. Liquidity refers to the ease with which shares can be traded and often serves as a proxy for market depth and investor participation (Abudy, 2020; Stereńczak & Kubiak, 2022). Using Trade Volume Activity (TVA) as a liquidity metric, Sutrisno (2020) documented a positive association between liquidity and volatility in Jakarta Islamic Index stocks. Similarly, Septyadi & Bwarleling (2020) found that higher liquidity was correlated with increased volatility in LQ45 stocks on the Indonesia Stock Exchange (IDX). In contrast, Dewi & Paramita (2020) reported no significant relationship, indicating that the empirical link between liquidity and volatility remains subject to variation.

In addition to liquidity, the market value ratio, particularly Dividend Yield (DY), represents investor expectations of consistent returns relative to stock price (Sukamulja, 2024:327), and may also influence stock price volatility. Several studies have shown that higher DY is associated with lower volatility. Phan & Tran (2020) found this relationship in non-financial firms listed on the Ho Chi

Minh and Hanoi Stock Exchanges, while Lotto (2021) observed a similar effect among industrial companies in Tanzania. In Indonesia, Fadila & Rahmawati (2024) confirmed that DY significantly reduced volatility in non-financial firms listed on the IDX.

However, other studies reported contrasting results. Dewi and Paramita (2020), focusing on LQ45 stocks, and Utami & Purwohandoko (2021), examining financial firms on the IDX, both found a positive relationship between DY and volatility. These inconsistencies highlight the importance of further examination within the blue-chip segment to clarify DY's role in volatility dynamics.

In light of the declining volatility among LQ45 constituents during 2020-2023 and the growing presence of retail investors in Indonesia's capital market, understanding the factors that influence stock price volatility has become increasingly important. Prior studies have highlighted the potential role of stock liquidity and market value ratios in shaping volatility patterns, yet empirical findings remain varied. This study investigates whether stock price volatility is affected by stock liquidity, as measured by Trade Volume Activity (TVA), and market value ratio, as proxied by Dividend Yield (DY), among LQ45 stocks, which represent Indonesia's leading blue-chip equities. It contributes to the volatility literature by offering empirical insights on the influence of liquidity and dividend-based signals within an emerging market context, providing implications for both investment decision-making and regulatory development.

LITERATURE REVIEW

Behavioral Finance Theory

Behavioral finance challenges the assumptions of classical financial theory, particularly the Efficient Market Hypothesis (Fama, 1965), by demonstrating that investor behavior is often influenced by emotions, heuristics, cognitive biases, and social pressures (Almansour et al., 2023; Tversky & Kahneman, 1974). According to Kahneman & Tversky (1979), as outlined in Prospect Theory, investors tend to act irrationally under uncertainty, with loss aversion causing them to react more strongly to losses than to equivalent gains (Dassani & Sridevi, 2021). These psychological influences can lead to overreactions to short- or long-term market information, as demonstrated by De Bondt & Thaler (1985), increasing stock price volatility and challenging the rational assumptions of the EMH (Haritha & Rishad, 2020). These behavioral tendencies may be amplified in highly liquid markets, where trades are executed more frequently and rapidly, thereby intensifying short-term volatility driven by sentiment.

Accordingly, this study draws on behavioral finance theory to hypothesize that higher stock liquidity, as indicated by trading activity, leads to greater stock price volatility. In liquid environments, psychological biases, such as overreaction, herding, and overconfidence, tend to dominate investor behavior, thereby amplifying price fluctuations. Behavioral finance thus provides a theoretical basis for the notion that liquidity serves as a behavioral amplifier of volatility, especially in emerging markets.

Signal Theory

Signaling theory, first introduced by Spence (1973), addresses the problem of information asymmetry by suggesting that informed parties (signalers) convey private information to uninformed parties (receivers) through observable and credible signals. In capital markets, corporate management often signals firm quality and reduces investor uncertainty through financial disclosures such as audited reports and dividend announcements, as explained by Oroud et al. (2023). For a signal to be credible, Spence (2002) emphasizes that it must be costly to imitate and correlated with firm fundamentals, ensuring only high-quality firms can afford to issue it. Dividend announcements, in particular, serve as credible signals of financial strength, capable of enhancing investor trust, reducing perceived risk, and promoting stock price stability (Cevik et al., 2022). Accordingly, this study adopts Dividend Yield as a proxy for financial signaling, reflecting its potential role in mitigating information asymmetry and reducing stock price volatility (Shakespeare, 2020).

Building on this theoretical perspective, the study hypothesizes that higher dividend yields, serving as credible signals of firm strength, reduce stock price volatility. Consistent dividend payouts are believed to enhance investor confidence, reduce speculative activity, and promote long-term investment, thereby stabilizing price movements. Accordingly, signaling theory provides the conceptual rationale for a negative relationship between dividend yield and volatility.

Stock Price Volatility

Stock price volatility refers to the magnitude of price fluctuations within a specific period, reflecting investment risk and uncertainty (Lotto, 2021). According to Sutrisno (2020), high volatility often signals potential short-term profit opportunities but also higher risk, while low volatility suggests price stability, making the stock more attractive to long-term investors. While traditionally measured using standard deviation or variance (Díaz-Bonilla, 2020), these methods assume a normal distribution and may not reflect real-world market dynamics (Bakouch et al., 2021). To address this, Parkinson's volatility estimator, based on intraday high and low prices, offers a more accurate measure, particularly in skewed distributions (Faldziński et al., 2020). This study adopts Parkinson's method to better capture daily stock price dynamics, particularly for liquid stocks listed in the LQ45 index. This study adopts Parkinson's method to better capture daily volatility in LQ45-listed liquid stocks, enhancing precision in blue-chip equity analysis within emerging markets.

Stock Liquidity

Stock liquidity refers to the ability to execute large-volume transactions with minimal price impact (Stereńczak & Kubiak, 2022). It is commonly measured using Trade Volume Activity (TVA), defined as the ratio of trading volume to total shares outstanding, capturing both market depth and trading intensity (Naik et al., 2020; Yuniartini & Sedana, 2020). While liquidity is often associated with price stability due to its absorptive capacity (Naik & Reddy, 2021), it may also amplify volatility when investor overreaction and behavioral

biases are triggered by ambiguous information (Baldauf & Mollner, 2022; Viale et al., 2020). Thus, liquidity plays a dual role, either dampening or intensifying volatility, depending on market context and investor psychology.

Market Value Ratio

Market value ratios reflect how the market perceives a firm's financial health and future outlook (Darmawan, 2020:56). Dividend Yield (DY), a key metric among these ratios, indicates annual dividend income relative to stock price and is favored by risk-averse investors seeking stable returns (Sukamulja, 2024:327; Tarmidi et al., 2020). Consistent dividend payments are often viewed as signs of financial soundness, which help reduce uncertainty and mitigate stock price volatility (Banerjee, 2020; Kliestik et al., 2020). Therefore, DY functions both as a valuation indicator and a behavioral signal influencing investor sentiment and trading behavior.

The Effect of Stock Liquidity on Stock Price Volatility

Stock liquidity reflects the ease with which a security can be traded in large volumes without significantly affecting its market price (Stereńczak & Kubiak, 2022). Highly liquid stocks typically offer lower transaction costs and more efficient pricing due to narrow bid-ask spreads and active trading. However, from a behavioral finance perspective, liquidity may amplify price volatility. Investors are not always rational; they are influenced by cognitive biases, such as overconfidence in response to positive signals and overreaction to negative signals, particularly during periods of market uncertainty (Almansour et al., 2023; Viale et al., 2020). When stocks are highly liquid, such sentiment-driven behavior is transmitted more quickly into price movements, resulting in short-term volatility.

This hypothesis is grounded in behavioral finance theory, which posits that high liquidity facilitates the rapid execution of trades driven by psychological biases, thereby amplifying short-term price fluctuations.

H1: Stock liquidity, as proxied by Trade Volume Activity (TVA), has a positive effect on stock price volatility.

The Effect of Market Value Ratio on Stock Price Volatility

Market value ratios reflect how the market evaluates a firm's performance and risk. Among these, Dividend Yield (DY) is particularly important for risk-averse investors, as it measures income return relative to stock price (Sukamulja, 2024:327; Tarmidi et al., 2020). Based on signaling theory, consistent dividend payments are perceived as indicators of financial strength, reducing information asymmetry and boosting investor confidence (Shakespeare, 2020). Consequently, such signals encourage long-term holding, reduce trading activity, and enhance stock price stability.

This hypothesis is supported by signaling theory, which holds that consistent dividend payments serve as credible signals of firm quality. These signals reduce investor uncertainty, lower information risk, and contribute to greater price stability.

H2: Market value ratio, as proxied by Dividend Yield (DY), has a negative effect on stock price volatility.

Based on the preceding theoretical discussion, the conceptual framework of this study is illustrated as follows.

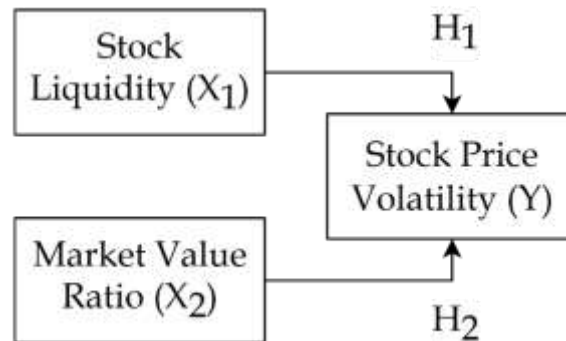


Figure 2. Framework of Thought

METHODOLOGY

This study employs a quantitative approach to examine the effect of stock liquidity and market value ratio on stock price volatility among firms listed in the LQ45 index on the Indonesia Stock Exchange (IDX) during the period 2020-2023. The population comprises 45 LQ45 constituents, from which 19 firms were selected using purposive sampling based on the following criteria: consistent listing in the index across the observation period, availability of complete annual financial reports in Indonesian Rupiah, and regular dividend distribution from 2020 to 2023. This resulted in 76 firm-year observations, with annual firm data as the unit of analysis. Secondary data were obtained from the official IDX website and firm-level public disclosures.

The study utilizes unbalanced panel data and applies Structural Equation Modeling using the Partial Least Squares (PLS-SEM) technique via SmartPLS 3.0. This method is appropriate for small to medium sample sizes and supports complex models involving multiple indicators and latent constructs. The evaluation included the measurement model (convergent validity, discriminant validity, and construct reliability), the structural model (R^2), and hypothesis testing based on path coefficients and p-values at a 5% significance level. To ensure robustness, the study further employed Q^2 predictive relevance using the blindfolding procedure and bootstrapping with 5000 resamples to confirm the stability of the estimated parameters.

RESEARCH RESULT

Convergent Validity

Convergent validity was evaluated through outer loading values, where values greater than 0.70 indicate sufficient indicator reliability (Hair et al., 2021). As shown in Table 1, all indicators (Trade Volume Activity [TVA] for stock liquidity, Dividend Yield [DY] for market value ratio, and Parkinson's Volatility [PV] for stock price volatility) exhibit outer loadings of 1.000, confirming that each indicator adequately captures the variance of its associated latent construct.

Table 1. Outer Loading Results

Construct	Indicator	Outer Loading
Stock Liquidity (X_1)	TVA	1.000
Market Value Ratio (X_2)	DY	1.000
Stock Price Volatility (Y)	PV	1.000

These loading values confirm that each indicator serves as a precise and exclusive representation of its latent construct, thereby validating convergent measurement quality.

Discriminant Validity

Discriminant validity was tested using the Fornell-Larcker criterion, which requires that the square root of each construct's AVE (diagonal) be higher than its correlations with other constructs (off-diagonal). As shown in Table 2, this condition is satisfied, confirming that each construct is empirically distinct.

Table 2. Discriminant Validity (Fornell-Larcker Criterion)

Construct	X_1	X_2	Y
X_1	1.000		
X_2	0.070	1.000	
Y	0.443	-0.144	1.000

These results validate the discriminant boundaries between constructs, ensuring that each measures a conceptually unique domain.

Construct Reliability

Composite reliability (CR) was used to assess the internal consistency of each construct. As shown in Table 3, all CR values equal 1.000, which is sufficient for confirming reliability, particularly in models where each construct is represented by a single indicator.

Table 3. Composite Reliability Results

Construct	Composite Reliability
Stock Liquidity (X_1)	1.000
Market Value Ratio (X_2)	1.000
Stock Price Volatility (Y)	1.000

The CR results indicate that each construct is perfectly reliable in measuring its respective latent variable, with no internal inconsistency.

Coefficient of Determination (R^2)

The coefficient of determination (R^2) indicates the proportion of variance in the dependent construct that is explained by its predictor variables. As shown in Table 4, the R^2 value for stock price volatility is 0.227, suggesting that

approximately 22.7% of the variance in stock price volatility (Y) can be explained jointly by stock liquidity (X_1) and market value ratio (X_2).

Table 4. R-square Results

Dependent Construct	R-square
Stock Price Volatility (Y)	0.227

These results suggest that while the independent variables contribute meaningfully to the explanation of stock price volatility, a substantial portion of the variance is influenced by other factors not captured in this model.

Predictive Relevance (Q^2 Predict)

Predictive relevance was assessed using Stone-Geisser's Q^2 , which evaluates how well the model predicts data points not used in estimation. As shown in Table 5, the Q^2 value for the dependent construct is 0.215, exceeding the minimum threshold of 0, thus confirming acceptable predictive relevance of the model.

Table 5. Q^2 Predict Results

Dependent Construct	Q^2 Predict
Stock Price Volatility (Y)	0.215

This result supports the model's ability to predict future observations of stock price volatility, providing additional confidence in its empirical validity.

Hypothesis Testing

Hypothesis testing was conducted using path coefficients and p-values at a 5% significance level. The results are summarized in Table 6.

Table 6. Hypothesis Testing Results

Hypothesis	Path Coefficient (β)	p-value (p)
$X_1 \rightarrow Y$	0.455	0.000
$X_2 \rightarrow Y$	-0.176	0.022

- The first hypothesis is supported by a positive and statistically significant path coefficient ($\beta = 0.455$, $p = 0.000$), indicating that stock liquidity, as measured by Trade Volume Activity (TVA), increases stock price volatility. This result is consistent with behavioral finance theory, which posits that higher liquidity enables swift, sentiment-driven trading, thereby amplifying price fluctuations.
- The second hypothesis is supported by a negative and statistically significant path coefficient ($\beta = -0.176$, $p = 0.022$), indicating that the market value ratio, as proxied by Dividend Yield (DY), is inversely related to stock price volatility. This finding aligns with signaling theory, suggesting that higher dividend payouts serve as credible indicators of

financial strength, thereby enhancing investor confidence and stabilizing stock prices.

DISCUSSION

The Effect of Stock Liquidity on Stock Price Volatility

This study finds that stock liquidity, proxied by Trade Volume Activity (TVA), exhibits a significant positive relationship with stock price volatility. While high trading activity contributes to market efficiency and depth, it also elevates the frequency and scale of price fluctuations. In liquid markets, investors can react quickly to both fundamental information and speculative cues, resulting in a more reactive price discovery process. Verawati et al. (2025) observed that this responsiveness is more pronounced in highly liquid stocks, where ease of execution accelerates price adjustment.

From a behavioral finance perspective, liquidity can amplify investor overreactions, especially under uncertainty or ambiguous information. Almansour et al. (2023) and Haritha & Rishad (2020) suggest that behavioral biases such as overconfidence or panic are exacerbated in low-friction trading environments, enabling rapid sentiment-driven trades. Baker & Stein (2004) argue that liquidity facilitates noise trading, while Chiu et al. (2018) confirm that the interaction between sentiment and liquidity intensifies short-term volatility.

These results align with findings by Sutrisno (2020) and Septyadi & Bwarleling (2020), who demonstrated that higher trading activity increases volatility in the Indonesian equity market. However, Dewi & Paramita (2020) found no significant effect among LQ45 stocks, indicating that the relationship may be conditional, shaped by factors such as time period, investor composition, or methodological approach. These insights underscore the dual function of liquidity: while it enhances market access and confidence, it may also heighten volatility during periods of market stress. Regulatory bodies such as OJK and IDX could consider targeted measures such as circuit breakers, enhanced disclosures, or real-time monitoring for high-turnover stocks. Likewise, corporate managers within the LQ45 index should balance efforts to promote liquidity with strong governance and communication practices to mitigate speculative risks.

The Effect of Market Value Ratio on Stock Price Volatility

This study also finds that Dividend Yield (DY), as a proxy for the market value ratio, has a statistically significant negative relationship with stock price volatility. High-yield stocks typically attract income-oriented investors, such as pension funds and conservative portfolios, who adopt long-term, buy-and-hold strategies. This behavior reduces market churn and speculative trading, contributing to more stable price movements. Prior research supports this dynamic: Doran et al. (2012) and Grullon et al. (2002) emphasize that consistent dividend policies help anchor investor expectations and mitigate sensitivity to market fluctuations.

This relationship is further supported by signaling theory, which views dividends as credible indicators of firm fundamentals in the presence of information asymmetry. Stable payouts are interpreted as signals of managerial

confidence in cash flow sustainability (Shakespeare, 2020), while Cevik et al. (2022) highlight their role in enhancing investor trust, reducing perceived risk, and moderating volatility. These theoretical insights align with the empirical findings and underscore DY's role in supporting market stability.

Empirically, this finding is consistent with Fadila & Rahmawati (2024) in Indonesia's non-financial sector, as well as Lotto (2021) and Phan & Tran (2020) in African and Vietnamese contexts. However, divergent results from Dewi & Paramita (2020) and Utami & Purwohandoko (2021) in LQ45 and financial firms suggest that the effect may vary depending on industry characteristics, dividend policies, or firm-specific risk profiles. These findings offer important practical implications. For LQ45 firms, a stable and transparent dividend policy may not only signal financial strength but also serve as a strategic approach to attracting long-term capital and minimizing exposure to volatility. For investors, DY can be a useful screening tool for identifying relatively lower-risk equities, especially in emerging markets with limited transparency. For regulators and analysts, dividend patterns may contribute to more accurate volatility forecasting and risk management practices, particularly outside speculative market segments.

CONCLUSIONS AND RECOMMENDATIONS

This study concludes that stock liquidity, as measured by Trade Volume Activity (TVA), has a positive and statistically significant impact on stock price volatility among LQ45 firms during the 2020-2023 period. This finding reinforces the premises of behavioral finance theory, where heightened trading activity and rapid sentiment shifts intensify short-term price fluctuations. In contrast, Dividend Yield (DY), as a proxy for the market value ratio, exhibits a significant volatility-dampening effect, consistent with signaling theory, which posits that stable dividend payouts reduce information asymmetry and foster long-term investor confidence.

Together, these results suggest that liquidity contributes to both improved efficiency and heightened susceptibility to market instability, while dividend strategies play a stabilizing role. These insights carry practical implications for capital market stakeholders. For short-term investors, TVA may serve as a risk indicator in high-turnover stocks. For long-term investors, DY can function as a screening metric for relatively stable assets, especially in emerging markets characterized by lower disclosure quality. For issuing firms, adopting consistent and credible dividend policies may enhance market credibility and strengthen investor loyalty. Regulators such as OJK and IDX are encouraged to adopt classification and disclosure mechanisms that account for liquidity-driven volatility exposure. These efforts may contribute to the development of a more resilient and transparent equity market in Indonesia.

ADVANCED RESEARCH

This study has several limitations. The explanatory power of the model, reflected by an R-squared value of 23 percent, indicates that stock liquidity and market value ratio explain only a limited portion of the variation in stock price volatility among LQ45 firms. This suggests that other relevant factors, such as profitability, leverage, institutional ownership, or macroeconomic influences,

may also play a role in shaping volatility but were excluded from the present model. In addition, the exclusive focus on LQ45 constituents, which are predominantly large-cap companies, may constrain the generalizability of the results to the broader Indonesian equity market.

Future research is encouraged to incorporate additional explanatory variables and expand the sample to include firms across a wider range of sectors and liquidity profiles. Extending the observation period or examining event-driven contexts, such as financial crises or major IPOs, could yield more nuanced and context-sensitive insights. Researchers may also consider adopting alternative analytical approaches, including GARCH models or moderated mediation analysis, to better capture non-linear and interactive effects. These enhancements could deepen theoretical contributions and improve the empirical robustness of volatility-related research in emerging markets.

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