Received: 7 November 2024 | Revised: 17 March 2025 | Accepted: 27 May 2025 | Published online: 26 June 2025

RESEARCH ARTICLE

Journal of Comprehensive Business Administration Research
2026, Vol. 3(2) 136–140
DOI: 10.47852/bonviewJCBAR52024748

Understanding the Impact of Liquidity Shocks on Stock Prices

Roya Anvari[1,*] and Sara Fooladi[1]

[1]*School of Business and Administrative Studies, The University of Georgia, Georgia*

Abstract: Stock price fluctuations are a common occurrence across all stock exchanges and are considered a natural part of market behavior. These price changes are driven by a range of factors, both internal and external to companies. By identifying these influencing factors, shareholders can make better-informed decisions regarding their investments, evaluating both their own and others' holdings in the market. This study explores the effect of stock liquidity and order restrictions on future price fluctuations in petrochemical companies listed on the Tehran Stock Exchange over a five-year period. The hypotheses are tested through panel data econometrics and the EViews7 software. The results indicate a significant correlation between relative liquidity and future stock price fluctuations, as well as between sales order limits and future price changes. Based on these findings, it is recommended that regulatory bodies implement robust policies around stock liquidity and sales order limits to help reduce sudden fluctuations in the market.

Keywords: stock liquidity, price fluctuation, transaction rates, purchase and sales

1. Introduction

Stock markets are constantly influenced by various factors that lead to fluctuations in stock prices. Every country experiences these fluctuations to varying degrees, shaped by its unique economic and political conditions. The Tehran Stock Exchange is no exception, with its price changes impacting the performance of listed companies.

Stock liquidity is a crucial consideration for investors, particularly for those focused on short-term gains, who tend to favor stocks with high liquidity. On the other hand, long-term investors are more concerned with stock price movements and their potential shifts over time [1]. Price changes in shares serve as essential indicators when assessing a company's financial health, conducting comparative analyses, and, most importantly, making decisions regarding stock transactions [2].

Gaining a deeper understanding of how stock liquidity affects market volatility can inform the development of regulations aimed at mitigating fluctuations. In essence, information about price changes and transaction dynamics plays a critical role in evaluating investment portfolios, securities, and the pricing of derivatives.

The primary aim of this study is to analyze the significant connection between relative liquidity and future stock price fluctuations.

2. Literature Review

Liquidity is defined as the ability to quickly convert assets into cash without a loss in value. In simpler terms, liquidity refers to assets whose prices remain stable without significant changes [3, 4]. The level of liquidity in secondary markets plays a crucial role in the success of public offerings, as it helps minimize costs and risks for both underwriters and market makers. Additionally, it benefits investors by reducing volatility and transaction expenses. From a broader economic standpoint, liquid capital markets facilitate the efficient allocation of capital, ultimately lowering the cost of capital for issuers. On a more specific level, market liquidity enables participation from a diverse pool of investors with different trading strategies. Some researchers have explored the impact of liquidity on expected stock returns [5–8]. Researchers suggested that since brokers cannot distinguish between informed and uninformed orders, prices are determined by imbalances in order flow, resulting in transactions driven by less informed participants. This creates a positive relationship between the volume of orders, transaction activity, and price fluctuations, commonly known as the price effect. Liquidity has become a crucial factor in the development of capital markets. As financial markets expand globally, smaller and less developed markets face the risk of liquidity outflows, with capital shifting toward larger regional markets. A key concern is the negative impact of financial crises, such as the Asian financial crisis and the subsequent Russian and Brazilian crises. These events triggered significant market reforms in emerging economies. Over the past decade, substantial measures have been implemented, leading to greater integration of emerging markets into the global financial system. Many of these markets have accelerated efforts to adopt advanced market structures and regulatory frameworks, resulting in steady growth and increased stability. This has, in turn, enhanced investor confidence, ultimately strengthening liquidity within these markets. Liquidity, in general, refers to the market's ability to handle trades efficiently, encompassing its depth, breadth, resilience, and transaction speed:

Market depth: Measures how large trade volumes influence price movements.

***Corresponding author:** Roya Anvari, School of Business and Administrative Studies, The University of Georgia, Georgia. Email: r.anvari@ug.edu.ge

Market breadth: Represents the proportion of market participants involved in price trends, indicating the market's tightness and the cost of adjusting positions. A key measure of breadth is the bid-ask spread, with narrower spreads signaling higher liquidity and reducing excessive price shifts.

Market resilience: Reflects how quickly the market returns to equilibrium after significant price fluctuations, which may result from news events (often negative) or large trades. A resilient market quickly stabilizes around its fair value.

Transaction speed: Refers to how rapidly trades are processed. In a highly liquid market, transactions occur with minimal delay.

Research showed that companies aim to improve stock liquidity since it can enhance their efficiency and value. They noted that managers often work to increase liquidity by converting their companies into publicly traded entities, voluntarily disclosing information, and expanding the number of shareholders to increase free float.

Smales [9] examined how liquidity influences stock pricing in the Australian market, utilizing stock turnover as a key factor. By analyzing monthly data, they accounted for variables such as the book-to-market ratio, firm size, and market excess returns. The study revealed an inverse relationship between turnover and returns, indicating the presence of a liquidity premium in the Australian stock market.

Bai et al. [10] investigated liquidity and yield factors in the Australian market, using various liquidity measures. Their research found that dividend-paying companies' stock yields were less sensitive to liquidity, indicating that investors focus on both dividends and market liquidity when evaluating a company [11]. One approach highlighted the role of market efficiency, where greater liquidity and higher trading volumes signified a more stable and well-functioning market, encouraging investor participation [12]. They introduced an alternative measure, evaluating liquidity through the ratio of stock returns to trading volume, which greatly enhanced the accuracy of asset pricing models.

Ahmed [13] explored liquidity using transaction-based metrics like turnover rates and bid-ask spreads. They identified inconsistencies between conventional and contemporary liquidity measures and introduced the "VOW" (value of order weight) model as a new liquidity assessment tool. The research demonstrated that this measure retained statistical significance even after adjusting for variables such as beta, book-to-market ratios, and shareholder returns.

Akdogan et al. [14] proposed a model linking liquidity to stock price fluctuations, suggesting that risk premiums rise during periods of high volatility. When asset yields are low, non-risk asset returns tend to decrease as well. A lack of liquidity can exacerbate supply shocks.

Watanabe and Watanabe [15] discovered a direct relationship between liquidity shortages and fluctuations in stock returns. Analyzing a sample of 100 major NYSE stocks along with 100 closely associated index shares, their findings indicated that liquidity limitations contributed to heightened stock return volatility in 75% of the cases.

However, previous studies have overlooked certain variables, such as the influence of specific market conditions and external factors, which may play a significant role in determining the behavior and strategies of investors regarding stock liquidity and price fluctuations. As such, this study aims to fill the gap left by earlier research, particularly in the context of the Tehran Stock Exchange, and seeks to explore the relationship between stock liquidity and market volatility with a focus on the petrochemical sector. By addressing this gap, the research hopes to contribute new insights to the field and provide a more comprehensive understanding of the dynamics at play in emerging markets like Iran.

3. Methodology

The present study is applied research. It has considered the effects of stock liquidity and order limitations on future fluctuations by the aid of data analysis and inferential statistics, such as Pearson correlation, regression estimation tests, and analysis of the regression model hypotheses by "sweivE" software. This study calculates liquidity using the following three factors: proposed stock transaction differences (purchasing and selling), indicating the difference between the highest and the lowest prices; variable ratio of the number of transacted shares to the total shares in the company. These numbers were collected primarily by the Rahavard Novin software. The values of the variables were then calculated using Excel; and the variable ratio of the company's transacting days to the total number of days when the stock exchange reported transactional activities, which was calculated by Rahavard Novin and Excel software packages. The present study focuses on the ordering limitations by considering purchase and sell order limitations as the variables.

3.1. Research design

This research used a regression model, as indicated in Equation (1):

$$\begin{matrix}{}^{M}_{\tau+1} = a_0 + a_1\sigma^M_\tau + a_2 RLIQ^{buy}_\tau + a_3 RLIQ^{sell}_\tau + \sum_{j=1}^{11} b_j D_{j,\tau} \\ +control + \varepsilon_{\tau+1}\end{matrix} \quad (1)$$

The variable of stock fluctuations in the above model was calculated by Equation (2):

$$\sigma^M_\tau = \sqrt{\frac{1}{K}\sum_{k=1}^{K}[MQ, MQ]^{sparse,k}_\tau - \frac{1}{K}[MQ, MQ]^{all}_\tau} \quad (2)$$

3.2. Significance test of variables and the model

T-test was used to analyze the significance of the independent variables in each model. The obtained F-statistic was compared with the F values in the table with K-1 and N-K degrees of freedom in the error level (α) of calculated 5%. If the calculated F were to be greater than F in the table, the numerical value of the test function would have been in the critical area, and the null hypothesis (H0) would have to be rejected. In this situation, the model was significant with a 95% confidence coefficient. If the calculated F were to be less than F in the table, H0 (null hypothesis) would have to be accepted, and the significance of the model at a 95% confidence level would be rejected. In this study, the regression model verification was approved, with regard to the F-statistic.

3.3. Participants

The central value in a statistical distribution refers to the representative value around which other data points are arranged. This central value is known as the measure of central tendency, and common examples include the mean and average. Typically, in many cases, the average is close to the mean, suggesting a

Table 1
Tests for determination of regression estimation method and results of regression model fitness

Regression model (1)	Test statistic	Degree of freedom	Significance level	Result
Chow test	1.86	(687 and 11)	0.04	Using panel model
Hausman test	0.000	7	1.000	Not known

normal distribution of the variables. Standard deviation is another key measure of dispersion, indicating how spread out the data is from the mean. A standard deviation close to zero means the data points are tightly clustered around the mean, showing minimal dispersion. Conversely, a larger standard deviation signifies greater variability in the data. Standard deviation is the square root of the variance, and it shares the same unit of measurement as the data. In all instances (Table 1), the standard deviation is relatively small, suggesting an appropriate distribution of the data. Skewness is the third standardized moment and measures the asymmetry of a distribution. For a perfectly symmetrical distribution, the skewness is zero. A positive skew indicates a distribution with a longer tail on the right, while a negative skew suggests a longer tail on the left [16]. In Table 1, all variables except the leverage ratio show a positive skew, which generally indicates a normal distribution for most variables, especially when skewness is small.

Kurtosis, or elongation, is the fourth standardized moment and reflects the sharpness of the peak of the distribution. A normal distribution has a kurtosis value of 3. The daily virtual variable (D) is excluded from the descriptive statistics because it consists only of binary values (0 and 1).

4. Results

Durbin–Watson statistic is considered for analyzing regression hypotheses. It includes statistical values between 0 and 4. If the value of this statistic is closer to "2," then the likelihood of serial self-correlation in the model is low. According to the obtained Durbin–Watson statistic of 1.9, there is no possibility of serial self-correlation in the considered regression model (using the Durbin–Watson table). Jarque–Bera test and histogram analysis are used to understand the normality conditions of fitted model residues. According to the results, the significance level of Jarque–Bera is less than $\alpha = 0.05$ and equal to zero. Thus, the distribution of residues is not normal with a 95% confidence level. When estimating least-squares parameters, inflation of variance in linear regression models is one of the most important elements. However, a challenge in using this method is the existence of "collinearity." One way to identify multicollinearity is by using the variance inflation factor. This factor shows how inflated the estimated coefficient of variance is in comparison to the estimated variables that do not have a linear correlation. Table 2 shows the variance inflation coefficients for the regression model under consideration. According to the results of this test, it can be concluded that no multicollinearity exists for the variance inflation model.

Table 2
Variance inflation coefficients for the regression model under consideration

Test	Test Amount	Results
Durbin–Watson statistic	1.90	Lack of serial self-correlation probability in the model
Jarque–Bera test	133.26	Non-normal distribution of model residue (1)
Variance inflation statistic	1.14	Confirming the lack of multicollinearity in the regression model

5. Discussion

The findings of this study revealed a significant relationship between liquidity, selling order restrictions, and future stock market fluctuations. These factors have the potential to cause considerable volatility in the stock exchange, and managing them could significantly support the market's development.

As previous research has indicated, the limitations present in stock exchanges have led to serious liquidity issues for investors [17–20]. For instance, the absence of brokers for a particular stock, the formation of sales queues, and buyers' reluctance to purchase stocks with pending sales queues are among the key reasons why stock liquidity has been a long-standing concern. Additionally, investors often face delays in liquidating their stocks, which affects the justification of earnings per share or the formation of assemblies. Experience suggests that these liquidity issues, coupled with prolonged selling processes, can lead to a sharp decline in the stock's selling price, well below its intrinsic value, resulting in intense market fluctuations. It has also been observed that long queues for purchasing stocks can encourage more public interest in buying them.

6. Conclusion and Policy Recommendations

Liquidity is becoming an increasingly critical factor in the development and sustainability of emerging markets. As financial systems evolve, the ability of markets to facilitate seamless transactions without significant price disruptions is essential for economic growth and investor confidence. Liquidity serves as a cornerstone of a well-functioning financial ecosystem, influencing both market efficiency and overall economic stability.

A fundamental aspect of an efficient market is its ability to enable price formation and price discovery. These processes rely heavily on market liquidity, as the availability of buyers and sellers ensures that asset prices accurately reflect available information. In illiquid markets, price distortions can occur due to large transaction spreads, making it difficult for investors to assess fair market values. When liquidity is low, price discovery is hindered, leading to volatility, inefficiencies, and potential misallocation of resources. A liquid market, on the other hand, allows for smoother transactions, reducing the cost of capital for issuers and creating more attractive investment opportunities for institutional and retail investors alike.

Beyond efficiency, liquidity plays a crucial role in maintaining market stability. In times of economic uncertainty or external shocks—such as financial crises, geopolitical tensions, or sudden changes in monetary policy—liquid markets are better equipped to absorb fluctuations. A market with high liquidity can

mitigate sharp price swings by providing sufficient trading volume, ensuring that assets can be bought and sold without significant losses. This stability fosters investor confidence and encourages long-term participation, which is essential for sustained economic development.

As financial markets become more interconnected, competition for global order flows is intensifying. Developed markets, with their deep liquidity pools, advanced trading infrastructure, and regulatory transparency, often attract international investors and large institutional players. To remain competitive, emerging markets must enhance their overall value proposition by strengthening market liquidity. This involves not only improving the operational efficiency of trading mechanisms but also ensuring a robust regulatory framework that promotes transparency and investor protection. Strategies to enhance market liquidity:

Recognizing the importance of liquidity, many markets are implementing strategic initiatives to deepen their financial ecosystems. These initiatives include:

Market microstructure enhancements: Improving trading platforms, increasing automation, and reducing transaction costs to facilitate smoother order execution.

Expansion of financial instruments: Introducing derivative markets, exchange-traded funds, and other investment products to diversify options for investors.

Regulatory reforms: Strengthening investor protection measures, reducing barriers to market entry, and enhancing corporate governance to foster trust and participation.

Encouraging institutional participation: Attracting institutional investors, such as pension funds and mutual funds, who contribute to stable and continuous market activity.

Foreign investment incentives: Creating policies that attract foreign capital, such as easing restrictions on cross-border transactions and ensuring tax incentives for international investors.

In an increasingly competitive financial landscape, liquidity is not just a technical market feature but a fundamental driver of economic progress. A liquid market promotes efficiency, enhances stability, and attracts investment, ultimately fostering sustainable growth. For emerging markets to thrive, a proactive approach to liquidity enhancement—through structural reforms, regulatory improvements, and strategic innovations—is essential to securing their position in the global financial ecosystem.

Effectively managing stock market fluctuations necessitates targeted strategies aimed at enhancing liquidity and mitigating artificial market distortions [21, 22]. One potential approach is to introduce dynamic pricing mechanisms that allow buyers in the queue to propose premium rates based on prevailing market prices, while also enabling sellers to offer discounts. This strategy could facilitate more accurate price discovery and streamline transactions, ultimately fostering a more efficient market [23]. While implementing percentage-based limits on bids and discounts may initially lead to longer queues, the gradual removal of such restrictions could help eliminate speculative or non-committed participants, thereby ensuring that only serious buyers and sellers remain actively engaged in the market.

From a policy perspective, integrating this approach into the stock exchange's existing regulatory framework and penalty system could provide a structured means of addressing artificial transaction queues. By enforcing transparency and discouraging manipulative practices, such measures could contribute to reducing excessive market volatility, fostering price stability, and enhancing investor confidence. In the long run, such reforms would create a more robust, transparent, and efficient trading environment, ensuring the sustainable growth of the stock market and reinforcing its role as a reliable investment platform.

Conflicts of Interest

The authors declare that they have no conflicts of interest to this work.

Data Availability Statement

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

Author Contribution Statement

Roya Anvari: Writing – original draft, Writing – review & editing, Visualization, Supervision, Project administration, Funding acquisition. **Sara Fooladi:** Conceptualization, Methodology, Software, Validation, Formal analysis, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Visualization.

References

[1] Hölzermann, J. (2024). Pricing interest rate derivatives under volatility uncertainty. *Annals of Operations Research*, *336*(1), 153–182. https://doi.org/10.1007/s10479-022-04921-y

[2] da Silva, A. J., & Baczynski, J. (2024). Discretely distributed scheduled jumps and interest rate derivatives: Pricing in the context of Central Bank actions. *Economies*, *12*(3), 73. https://doi.org/10.3390/economies12030073

[3] Peng, P., & Xu, Z. (2024). Subjective preferences, liquidity constraints and price risk management under large-scale farm management. *China Agricultural Economic Review*, *16*(1), 76–96. https://doi.org/10.1108/CAER-12-2022-0287

[4] Bongaerts, D., & Schoenmaker, D. (2024). Liquidity and clientele effects in green debt markets. *Journal of Corporate Finance*, *86*, 102582. https://doi.org/10.1016/j.jcorpfin.2024.102582

[5] Zeng, Z., Wang, G., & Tang, G. (2024). Price limits hitting effect and cross-sectional stock returns: Evidence from China. *Finance Research Letters*, *60*, 104803. https://doi.org/10.1016/j.frl.2023.104803

[6] Budhathoki, P. B., Bhattarai, G., & Dahal, A. K. (2024). The impact of liquidity on common stocks returns: Empirical insights from commercial banks in Nepal. *Banks and Bank Systems*, *19*(1), 148–156.

[7] Sethy, T. K., & Tripathy, N. (2024). A new method for estimating liquidity and stock returns in Indian stock market. *China Accounting and Finance Review*, *26*(2), 253–275. https://doi.org/10.1108/CAFR-05-2023-0052

[8] Duong, K. D., Huynh, T. N., & Truong, L. T. D. (2025). How do intangible assets and financial constraints affect stock returns in Vietnam before and during the COVID-19 pandemic? *International Journal of Finance & Economics*, *30*(1), 315–329. https://doi.org/10.1002/ijfe.2916

[9] Smales, L. A. (2024). Stock market liquidity during crisis periods: Australian evidence. *Accounting & Finance*, *64*(2), 1849–1878. https://doi.org/10.1111/acfi.13202

[10] Bai, M., Qin, Y., & Bai, F. (2024). Dividend policy and firm liquidity under the tax imputation system in Australia. *International Journal of Managerial Finance*, *20*(2), 281–303. https://doi.org/10.1108/IJMF-01-2023-0018

[11] 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

[12] Alaba, J. S., Ahmed, Y., Malik-Abdulmajeed, K. M., & Hussain, U. (2024). Stock market liquidity and stock market performance in Nigeria: Evidence from the Nigerian exchange limited. *iRASD Journal of Management*, *6*(2), 78–89. https://doi.org/10.52131/jom.2024.0602.0124

[13] Ahmed, W. M. (2024). On the robust drivers of cryptocurrency liquidity: The case of Bitcoin. *Financial Innovation*, *10*(1), 69. https://doi.org/10.1186/s40854-023-00598-9

[14] Akdogan, I. U., Halicioglu, F., & Demir, I. (2026). Measuring currency risk premium: The case of Turkey. *International Journal of Finance & Economics*, *31*(1), 4–28. https://doi.org/10.1002/ijfe.3126

[15] Watanabe, A., & Watanabe, M. (2008). Time-varying liquidity risk and the cross section of stock returns. *The Review of Financial Studies*, *21*(6), 2449–2486. https://doi.org/10.1093/rfs/hhm054

[16] Vogel, R. M., Papalexiou, S. M., Lamontagne, J. R., & Dolan, F. C. (2025). When heavy tails disrupt statistical inference. *The American Statistician*, *79*(2), 221–235. https://doi.org/10.1080/00031305.2024.2402898

[17] Yan, R., Zhu, X., Wang, K., Ma, F., & Wu, X. (2024). Fractal momentum investment strategies based on liquidity nonlinear fluctuations in Chinese stock market. *Journal of Chinese Economic and Foreign Trade Studies*, *17*(2–3), 193–219. https://doi.org/10.1108/JCEFTS-12-2023-0063

[18] Al-Khazaleh, S., Badwan, D. N., Eriqat, I., & El Shlmani, Z. (2024). COVID-19 pandemic and linkage between stock markets in Middle Eastern countries. *Journal of Chinese Economic and Foreign Trade Studies*, *17*(2/3), 112–132.

[19] Xia, Y., & Madni, G. R. (2024). Unleashing the behavioral factors affecting the decision making of Chinese investors in stock markets. *Plos one*, *19*(2), e0298797.

[20] Feng, M., Yao, D., Yang, S., & Dai, P. (2025). Stock market liberalisation and debt maturity structure: Evidence from the Shanghai-Hong Kong Stock Connect. *Accounting & Finance*, *65*(1), 143–167. https://doi.org/10.1111/acfi.13320

[21] Al Janabi, M. A. M. (2024). *Liquidity dynamics and risk modeling: Navigating trading and investment portfolios frontiers with machine learning algorithms*. UK: Palgrave Macmillan. https://doi.org/10.1007/978-3-031-71503-7

[22] Dolgopolov, S. (2019). The doctrinal quandary of manipulative practices in securities markets: Artificial pricing, price discovery, and liquidity provision. *Journal of Corporation Law*, *45*(1), 1–64.

[23] Ekundayo, F. (2024). Economic implications of AI-driven financial markets: Challenges and opportunities in big data integration. *International Journal of Science and Research Archive*, *13*(2), 1500–1515. https://doi.org/10.30574/ijsra.2024.13.2.2311

How to Cite: Anvari, R., & Fooladi, S. (2026). Understanding the Impact of Liquidity Shocks on Stock Prices. *Journal of Comprehensive Business Administration Research*, *3*(2), 136–140. https://doi.org/10.47852/bonviewJCBAR52024748