World Academy of Science, Engineering and Technology
International Journal of Mathematical and Computational Sciences
Vol:14, No:12, 2020

The Impact of Monetary Policy on Aggregate Market Liquidity: Evidence from Indian Stock Market

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Abstract : The recent financial crisis has been characterized by massive monetary policy interventions by the Central bank, and it has amplified the importance of liquidity for the stability of the stock market. This paper empirically elucidates the actual impact of monetary policy interventions on stock market liquidity covering all National Stock Exchange (NSE) Stocks, which have been traded continuously from 2002 to 2015. The present study employs a multivariate VAR model along with VAR-granger causality test, impulse response functions, block exogeneity test, and variance decomposition to analyze the direction as well as the magnitude of the relationship between monetary policy and market liquidity. Our analysis posits a unidirectional relationship between monetary policy (call money rate, base money growth rate) and aggregate market liquidity (traded value, turnover ratio, Amihud illiquidity ratio, turnover price impact, high-low spread). The impulse response function analysis clearly depicts the influence of monetary policy on stock liquidity for every unit innovation in monetary policy variables. Our results suggest that an expansionary monetary policy increases aggregate stock market liquidity and the reverse is documented during the tightening of monetary policy. To ascertain whether our findings are consistent across all periods, we divided the period of study as pre-crisis (2002 to 2007) and post-crisis period (2007-2015) and ran the same set of models. Interestingly, all liquidity variables are highly significant in the post-crisis period. However, the pre-crisis period has witnessed a moderate predictability of monetary policy. To check the robustness of our results we ran the same set of VAR models with different monetary policy variables and found the similar results. Unlike previous studies, we found most of the liquidity variables are significant throughout the sample period. This reveals the predictability of monetary policy on aggregate market liquidity. This study contributes to the existing body of literature by documenting a strong predictability of monetary policy on stock liquidity in an emerging economy with an order driven market making system like India. Most of the previous studies have been carried out in developing economies with quote driven or hybrid market making system and their results are ambiguous across different periods. From an eclectic sense, this study may be considered as a baseline study to further find out the macroeconomic determinants of liquidity of stocks at individual as well as aggregate level.

Keywords : market liquidity, monetary policy, order driven market, VAR, vector autoregressive model
Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development
Conference Location : Chicago, United States
Conference Dates : December 12-13, 2020