Interactive effect of Bank Competition, Risk and Liquidity – A study on Indian Banks

Extended Abstract

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The impact of bank competition, risk and liquidity on bank failures is a fundamental issue for policymakers, especially in light of the current banking consolidation of the Indian banks. The intensity of bank competition plays an important role in the stability of banks. Effective corporate governance also ensures a country's banking system's stability and competitiveness among the banks. Similarly, healthy competition ensures the availability of banking services at reasonable prices and quality. However, stiff competition reduces interest rates on loans, but it weakens the quality of loan portfolios and forces banks to undertake additional risk to maintain their bottom lines. Current literature does not have consensus on the nature of the impact that competition may have on a bank's liquidity and stability.

Studies have shown conflicting views on the impact of bank competition on liquidity. One strand of the literature shows that increased bank competition encourages financial innovation and enhances credit allocation, efficiency and liquidity creation. In contrast, another strand of literature indicates that the increase in the intensity of competition leads to a reduction in liquidity creation as competition creates fragility. As a result, banks are incentivized to reduce liquidity creation by restricting a large volume of loans and bulk deposits to reduce the threat of bank runs. The existing studies offer conflicting perspectives on the dynamic relationship between bank governance, competition and risk. One strand of the literature shows that a robust and efficient governance framework decreases the bank's default risk due to rigorous regulatory and governance standards. In contrast, another strand of literature indicates that it increases the default risk of banks due to more involvement of the bank owner in the board and an increase in risk appetite.

The corporate governance framework also impacts competition among the banks, risk appetite and thus profitability. In addition, the intensity of bank competition also plays a vital role in the stability of banks. Studies have shown conflicting views on the impact of bank competition on bank risk. One set of literature demonstrates that increased competition ensures stability, while others show

that financial stability suffers from increased competition. The ‘competition–fragility’ theory and the ‘competition–stability’ theory are two opposing hypotheses that have grabbed the attention of academics and policymakers.

However, a bank operates in an interconnected network system comprising many banks and their respective links. Several studies have been conducted to understand the impact of network structure on systemic risk and stability of the financial system. Studies have shown the construction of financial networks using the Granger-causality, CoVaR, Copula, Time-varying VAR and LASSO VAR techniques. As banks operate in an interconnected complex network system, it has far-reaching implications for the economy; hence the link between bank competition, risk and liquidity is important to economic policymakers.

Vector Autoregression (VAR) helps to understand the bidirectional relationship between time series data. The LASSO-VAR is used to fix high dimensionality in the VAR while estimating network connectedness among 96 banks worldwide (Demirer et al., 2018). It has also been used to analyze the volatility connectedness in the cryptocurrency market (Yi et al., 2018). Though recent works propose the estimation of network measures using machine learning methods. This study quantifies the interactive network indices’ uncertainty (confidence intervals) through the LASSO VAR technique.

The sample for the study is the Indian banking system. In recent years the Basel guidelines for international supervision have been implemented in India. Deregulation and reform in the banking sector enhanced competition, reduced interest rates and improved service delivery quality. However, indiscriminate lending and cut-throat competition have increased the systemic risk of the banking system. Thus, the intensity of competition has also changed; hence it is important to understand and further explore the dynamics of bank competition, risk and corporate governance in the Indian context.

The theoretical literature has provided conflicting views about the relationship between bank governance, risk and competition. Trade-offs between competition and risk have far-reaching implications for regulators and banks’ management. It is essential to enhance our understanding of the consequences of bank governance and its impact on bank risk and competition where banks operate globally as a network system. However, the literature has not significantly evolved to provide robust guidelines on the impact of bank governance on competition and bank risk. The uniqueness of this article is that it has studied the impact of bank governance on competition and risk-taking behaviour of the banks in India.

We split the research objectives into five parts. First, we estimate bank governance, competition and risk. Second, we employ the two-step system GMM modelling to examine the dynamics among bank governance, competition and risk. Thirdly, we construct the Bank Competition, Risk and Liquidity Network Structure based on the Granger causal relation and Frank Copula correlation between the returns of the individual banks during two different economic cycles. Fourthly, bank network indices like Competition Network Index (CNI), Risk Network Index (RNI) and Liquidity Network Index (LNI) are developed annually for each bank. Finally, these bank network indices are further used to analyze the dynamics among the three networks through the LASSO VAR technique.

The article reveals interesting insights regarding bank governance, risk and competition dynamics. First, we find that the governance framework in the Indian banking system is unable to control the insolvency risk leading the banks to be more fragile. Second, bank governance has no role in determining the competitiveness among the banks in India. Third, the study finds the network structures concentrated during the economic upcycle and dispersed during the economic downcycle. Finally, the analysis also finds a significant interaction among competition, risk and liquidity networks in the Indian banking system. The findings add to the existing literature and offer important implications for policymakers to craft appropriate policies for the governance of the banking system under the Basel framework.