

“EXPLORING THE DETERMINANTS AND CONSEQUENCES OF BANK LIQUIDITY CREATION”

Sakshi Srivastava¹, DR. Seema Thakur²

^{1,2}School of Finance & Commerce, Galgotias University, India.

ABSTRACT

This study aims to enrich the understanding of bank liquidity creation within SAARC nations by analyzing data from 2010 to 2020 through multivariate panel regression using the Generalized Method of Moments (GMM). Through our econometric investigation, we delved into the internal and external factors influencing bank liquidity creation and its outcomes. Our results reveal that bank capital, operational risk, credit risk, liquidity risk, and bank size significantly impact liquidity creation, while the role of country governance appears insignificant. The observed effects of liquidity creation include stability, performance, and economic growth. This underscores the vital role of bank liquidity creation in economic development and highlights the necessity for regulators to monitor and mitigate liquidity risk to ensure banking stability and profitability. This research delves into the intricacies of bank liquidity creation within the South Asian Association for Regional Cooperation (SAARC) nations, employing a comprehensive analysis spanning the period from 2010 to 2020. Utilizing multivariate panel regression techniques, specifically the Generalized Method of Moments (GMM), we explore both internal and external factors shaping liquidity creation dynamics and their subsequent impacts. Our findings underscore the significant influence of several key factors on bank liquidity creation. Notably, bank capital, operational risk, credit risk, liquidity risk, and bank size emerge as pivotal determinants, exhibiting statistically significant effects on liquidity creation processes. Conversely, the role of country governance is found to be relatively insignificant in this context. Moreover, our analysis illuminates the multifaceted outcomes associated with liquidity creation. Beyond its immediate implications for banking stability, liquidity creation exerts tangible effects on bank performance and broader economic growth trajectories. This highlights the indispensable role of robust liquidity creation mechanisms in driving sustained economic development within the SAARC region. The implications of our findings extend to regulatory frameworks and policy interventions aimed at safeguarding banking stability and profitability. In light of the observed impacts of liquidity creation, regulators are urged to prioritize vigilant monitoring and proactive measures to mitigate liquidity risk effectively. In sum, this study contributes to a deeper understanding of bank liquidity dynamics within SAARC nations, emphasizing its pivotal role in fostering economic development. By shedding light on the factors driving liquidity creation and its consequential effects, our research underscores the imperative for policymakers and regulators to prioritize measures that ensure the resilience and sustainability of banking systems in the region. Bank liquidity creation, a fundamental function of financial intermediaries, plays a pivotal role in maintaining financial stability and fostering economic growth. This paper aims to explore the determinants and consequences of bank liquidity creation without resorting to plagiarism. Through a comprehensive review of existing literature and empirical analysis, this study investigates the factors influencing banks' ability to create liquidity and the potential outcomes on financial markets and the broader economy. The determinants of bank liquidity creation encompass various internal and external factors. Internally, bank-specific characteristics such as capital adequacy, asset quality, management efficiency, and risk management practices significantly influence liquidity creation. Externally, macroeconomic conditions, regulatory environment, market structure, and technological advancements shape banks' liquidity creation abilities. Understanding these determinants is essential for policymakers and regulators in formulating effective strategies to enhance financial stability and mitigate systemic risks. Moreover, the consequences of bank liquidity creation extend beyond the banking sector to impact financial markets and the real economy. Liquidity creation affects asset prices, market liquidity, and systemic risk. It also plays a crucial role in facilitating credit provision, investment, and economic growth. However, excessive liquidity creation can lead to moral hazard, asset bubbles, and financial instability, as witnessed during the global financial crisis. Empirical analysis using econometric methods provides insights into the relationship between determinants and consequences of bank liquidity creation. By employing panel data analysis or structural modeling techniques, this study aims to quantify the impact of various factors on liquidity creation and assess its implications for financial stability and economic performance. The findings of this research contribute to the existing body of knowledge on bank liquidity creation by offering insights into the intricate interplay of determinants and consequences. By identifying key drivers and outcomes, policymakers can design targeted interventions to promote prudent liquidity management and mitigate systemic risks in the banking sector. Moreover, financial institutions can leverage these findings to optimize their liquidity creation strategies and enhance their resilience to market shocks.

1. INTRODUCTION

The financial sector plays an important role in ensuring sustainable growth in any country's economy (Paun et al., 2019). This supports the efficient allocation of resources from the savings sector to the investment sector and increases overall productivity (Hussain et al., 2021).

Modern financial intermediation theory states that banks as financial institutions play two important roles in the economy.

Transforming risk and creating liquidity (Berger) Creating liquidity for depositors and borrowers is one of the important functions of banks, fostering entrepreneurial activity and ultimately economic growth, but illiquid loans are These increases the liquidity

Banks also have opportunities to generate liquidity for their customers through off-balance sheet transactions such as loan agreements and letters of credit.

The importance of creating bank liquidity increased during the global financial crisis (2007-2009) as the liquidity needs of individuals and businesses could not be met by market-based funding sources.

Furthermore, bank liquidity could be depleted for an extended period of time, which could have an adverse effect on economic conditions.

In contrast, banks are more likely to fail due to the creation of higher liquidity both on and off the balance sheet.

Furthermore, Berger and Sedunov (2017) argue that liquidity provision may be considered a better measure of bank performance than return on assets, as liquidity provision also includes off-balance sheet activities. Derivatives, lines of credit, and off-balance sheet guarantees are considered.

In recent years, there has been increasing interest in the study of liquidity creation, both in theoretical and empirical research. Deep and Schaefer (2004) develop a method to calculate the exact amount of liquidity a bank generates, focusing on maturity conversion and balance sheet activity.

They based their findings on the pioneering work of Bryant (1980) and Diamond and Dybvig (1983).

Berger and Bowman (2009) present in their approach his four possible techniques for calculating the liquidity generation of banks based on the categories of assets, liabilities and equity. This includes off-balance sheet activity and other variables based on maturity transformations.

2. OBJECTIVES

Identify factors that influence banks' ability to generate liquidity, such as balance sheet structure, regulatory requirements, and market conditions. Investigate how changes in these determinants affect the level and stability of banks' liquidity creation.

Assess the impact of bank liquidity creation on financial stability, including its role in mitigating or exacerbating systemic risk.

Examine the relationship between bank liquidity creation and economic growth and analyze how it fosters lending and investment in the economy.

Understand the impact of liquidity generation on bank profitability, risk behavior, and overall performance.

Provide insights to policymakers and regulators to design effective liquidity management frameworks and regulations to improve financial stability and promote sustainable economic growth.

3. SCOPE OF STUDY

1. Definition and Measurement:

Define bank liquidity generation and discuss the various metrics used to measure it, including the size of liquid assets relative to deposits, or the ability to convert illiquid assets into cash.

2. Determinants:

Examines factors that influence a bank's ability and willingness to provide liquidity, including regulatory requirements, market conditions, management practices, and a bank's financial health.

3. Impacts for banks:

Examines how levels of liquidity creation impact banks' profitability, risk management strategies, funding costs and overall stability.

4. Financial Market Implications:

Analyze the broader impact of bank liquidity creation on financial markets, including the impact on interest rates, market liquidity, and systemic risk.

5. Policy Implications:

Discuss the regulatory and policy considerations arising from the determinants and consequences of bank liquidity creation, The need for adequate liquidity buffers, stress testing frameworks, and supervisory practices.

4. LITERATURE REVIEW

One of the first studies to demonstrate the role of his model's balance between banks' solvency and ability to generate liquidity. Banks by performing this function, banks play an active role in the real economy.

It proposed by Diamond and Dybvig (1983), the provision of demand deposits by banks promotes a risk-sharing atmosphere in which new depositors are placed to compensate for losses on existing deposits, theory of money supply states that the central bank, banks, borrowers, and depositors are his four main actors responsible for determining.

Money is not generated by any one of the four banks mentioned here, but by the banking system as a whole.

Key factors that influence the money creation process include commercial banks' decisions to hold access reserves, central bank reserve requirements, depositors' cash holding decisions, and borrowers' borrowing decisions.

Two landmark studies played an important role in setting benchmarks for liquidity creation by measuring the phenomenon.

wo landmark studies played an important role in setting benchmarks for liquidity creation by measuring the phenomenon.

The first experiment was performed by Deep and Schaefer (2009). Several subsequent studies used the same methodology to analyze banks' liquidity production from different perspectives.

This effort considered both control variables and several determinants, including capital and risk assessment.

Consistent with this modelling, we further explore the effects of antecedents and liquidity generation by conducting a review of the limited research to date on the creation of real economic activity and the impact of such activity on economic growth.

To learn more about the process of liquidity creation, some studies followed the methodology of Berger and Bowman (2009), while others followed the methodology of Deep and Schaefer (2009) and According to the variables, namely the bank's capital and its relationship with the government. Policy, bank value, mergers and acquisitions, bank competition, bank deregulation, deposit insurance, corporate governance, and economic activity were all examined in the context of the different geographic locations studied To the best of the authors' knowledge, limited research has been conducted on the impact and consequences of both bank-specific and external factors on liquidity creation.

According to the results, several internal factors such as size, capital, risk, deposits, and performance are significantly related to liquidity creation in the MENA region.

Additionally, macroeconomic indicators such as unemployment, inflation, savings, and monetary policy play an important role in explaining changes in banks' liquidity supply.

study in which they investigated the influencing factors that led to different forms of liquidity, including: B.Fund liquidity, liquidity provision and stock market liquidity in the BRICS economies for the As a result, in these developing countries, bank-specific factors, namely Regulatory capital and performance, as well as external variables such as unemployment, monetary policy, population, and savings, influence liquidity provision.

The researchers found that liquidity provision is strongly stimulated by monetary policy and has a strong negative correlation, while it has a positive correlation with economic development. However, this study did not find any significant effects of internal factors such as size and performance on liquidity formation.

4.1 Country Governance and Liquidity Creation

Government policies and conduct significantly influence bank liquidity creation. Prudential regulations within the banking sector alleviate the adverse effects of economic policy uncertainty on lending (Galati & Moessner, 2018), while corruption impedes lending growth (Detragiache et al., 2008; Weill, 2011). Political institutions indirectly affect bank risk behavior (Ashraf, 2017). Country governance, encompassing systems, institutions, and authority exercise, plays a pivotal role in shaping these dynamics. Regulatory bodies ensure effective banking practices (Isaksson, 1999), with good governance enhancing financial stability.

Previous research indicates that strengthening regulatory authorities can exacerbate bank officials' corruption (Beck & Demirguc-Kunt, 2006). Empowering regulatory agencies in nations with weak governance may encourage lending corruption, prioritizing self-interest over societal welfare (Yasar, 2019).

Wang et al.'s (2022) study establishes a significant relationship between country governance and bank liquidity creation, countering economic policy uncertainty's adverse effects. During crises, the benefits of governance may diminish, and economic policy uncertainty's harms amplify. Despite its significance, there is limited literature on governance's impact on banks' liquidity generation. Thus, this study addresses this gap.

4.2 Risk and Liquidity Creation

In literature, three primary risks in the banking sector are operational risk, credit risk, and liquidity risk. Operational risk stems from human error, technological failures, or external events disrupting a bank's operations. It's estimated that operational losses constitute about 30% of a financial institution's overall risk, impacting profitability and contributing to events like the 2007-08 financial crisis. Credit risk, on the other hand, surges during financial shocks, particularly affecting banks with moral hazard issues. These banks, exposed to more risk, often hold less capital and face liquidity challenges. Furthermore, risky initiatives can leave banks vulnerable, especially if the value of their securities declines due to flawed appraisal processes. This dynamic underscores the need to explore the intricate relationship between credit risk and liquidity generation, offering significant policy implications for financial system stability. Hypotheses suggest that operational risk, credit risk, and liquidity risk all have noteworthy associations with liquidity creation, emphasizing the importance of understanding how these risks interact to safeguard the financial system's stability.

4.3 Size and Liquidity Creation

There exist two contrasting viewpoints regarding the influence of bank size on liquidity creation. Berger and Udell (2009) argue that larger banks have the capability to extend loans to small-scale investors at reduced costs, thereby attracting a broader investor base and expanding lending activities. Conversely, Distinguin et al. (2013) contend that significant banks are incentivized to generate higher liquidity levels by investing in risky and illiquid assets due to their "too big to fail" status. Additionally, they assert that major financial institutions outperform smaller banks in liquidity generation, facilitated by their enhanced access to the lender of last resort. Empirical evidence suggests that smaller banks exhibit a comparatively higher capacity to generate liquidity relative to their total assets. This phenomenon arises from smaller financial institutions' relative advantage in serving small entrepreneurial enterprises, facilitated by more flexible credit assessment methods reliant on subjective qualitative data (Mdaghri & Oubdi, 2022).

4.4 Liquidity Creation and Economic growth

The symbiotic relationship between bank liquidity creation and economic growth is underscored by empirical investigations. Berger and Udell's (2017) inquiry illuminates the robust positive correlation between bank liquidity provision and tangible economic advancement. Yet, amidst unprecedented growth propelled by banking reforms like technological innovations and global integration (Yin, 2019), a concomitant surge in risks emerges. These risks, encompassing international shock transmission, bank collapses, and crises, engender a burgeoning research endeavor. Scholars endeavor to delineate the nuanced vulnerabilities that persistently imperil the financial stability of banks, accentuating the imperative for vigilant regulatory oversight and risk management strategies.

4.5 Liquidity Creation and Bank Stability

Two predominant theoretical frameworks dissect the potential nexus between liquidity creation and bank stability. One paradigm posits that liquidity creation can either exacerbate or mitigate moral hazard quandaries, contingent upon banks' risk propensity, thereby influencing their stability (Acharya & Naqvi, 2012). Conversely, an alternative viewpoint contends that an overabundance of liquidity creation might engender financial fragility due to its affirmative correlation with liquidity risk. The divergence in perspectives underscores the intricate interplay between liquidity dynamics and the stability of financial institutions. While proponents of the former thesis advocate for liquidity creation as a means to bolster resilience against systemic shocks, proponents of the latter warn against the peril of excessive liquidity provision fostering vulnerabilities within the banking system. These theoretical musings reflect the nuanced considerations surrounding liquidity creation's impact on bank stability, encapsulating the dichotomy between its potential as a stabilizing force and its susceptibility to exacerbating systemic risks. Ultimately, reconciling these perspectives necessitates a holistic comprehension of the multifaceted factors shaping the intricate relationship between liquidity creation and the resilience of financial intermediaries.

5. RESEARCH METHODOLOGY

The research focused on analyzing publicly traded commercial banks listed on SAARC stock exchanges from 2010 to 2020. A sample of 332 commercial banks was constructed using unbalanced panel data, selected based on data availability, absence of mergers or acquisitions during the study period, and public trading of shares. Commercial banks were chosen due to their crucial role in providing liquidity to the economy. SAARC countries were chosen due to similarities in bank information availability, political conditions, legal traditions, business language, accounting practices, and geographical significance. However, Bhutan, Nepal, and Afghanistan were excluded due to poor stock market functioning and data unavailability. Data reliability and authenticity were ensured by clarifying the sources and methodology, utilizing data from Fitchconnect, IMF, World Bank, World Development Indicator, and World

Governance Indicator. Standardized measures of catfat (CATFAT) and catnonfat (CATNFAT) adjusted by total assets were used to calculate liquidity creation. Internal (firm-specific) and external (macroeconomic) factors were considered. The study developed regression models for panel data analysis. The research embarked on a comprehensive analysis of publicly traded commercial banks listed on SAARC stock exchanges spanning the decade from 2010 to 2020. A meticulously curated sample comprising 332 commercial banks was meticulously constructed using unbalanced panel data. Selection criteria included rigorous adherence to data availability, absence of mergers or acquisitions during the stipulated study period, and a pivotal prerequisite of public trading of shares. The rationale behind focusing on commercial banks lies in their pivotal function as liquidity providers to the broader economy, thus rendering them a focal point for investigation. The selection of SAARC countries as the study's focal point was underpinned by the convergence of several factors. These nations share a homogeneity in terms of bank information accessibility, political landscape, legal frameworks, business language, accounting norms, and geographical significance. Notwithstanding, Bhutan, Nepal, and Afghanistan were deliberately omitted from the study's purview due to the operational challenges stemming from their suboptimal stock market performance and the resultant dearth of reliable data. To fortify the reliability and authenticity of the data under scrutiny, the research meticulously delineated its sources and methodology. Leveraging datasets sourced from reputable repositories including fircconnect, IMF, World Bank, and indicators such as the World Development Indicator and World Governance Indicator, the study laid a robust foundation for its analytical endeavors. In dissecting the intricacies of liquidity creation, the research employed standardized measures such as catfat (CATFAT) and catnonfat (CATNFAT), duly adjusted by total assets. This meticulous approach aimed to distill the nuanced interplay between internal (firm-specific) and external (macroeconomic) factors, thereby facilitating a comprehensive understanding of liquidity dynamics within the SAARC banking landscape. The study's analytical framework was further augmented through the development of regression models tailored for panel data analysis. By elucidating the complex relationship between bank characteristics, macroeconomic indicators, and liquidity creation metrics, the research sought to furnish stakeholders with actionable insights to navigate the intricacies of banking dynamics within the SAARC region.

SOURCE OF DATA

The content provided describes the meticulous approach taken by the research to fortify the reliability and authenticity of its data. The sources of data collection mentioned include reputable repositories such as fircconnect, International Monetary Fund (IMF), World Bank, and indicators like the World Development Indicator and World Governance Indicator. These sources are widely recognized for providing comprehensive and reliable data on various economic and financial aspects, making them ideal for conducting in-depth analyses. Additionally, the research utilized standardized measures such as catfat (CATFAT) and catnonfat (CATNFAT), adjusted by total assets, to dissect the intricacies of liquidity creation. These measures are commonly employed in financial research to assess and compare liquidity levels across different entities, offering a standardized framework for analysis. Furthermore, the study employed regression models tailored for panel data analysis, allowing for the exploration of the complex relationship between bank characteristics, macroeconomic indicators, and liquidity creation metrics. Panel data analysis enables researchers to account for both cross-sectional and time-series variations, providing a more comprehensive understanding of the factors influencing liquidity dynamics within the SAARC banking landscape. Overall, the utilization of reputable data sources, standardized measures, and advanced analytical techniques underscores the rigor and robustness of the research methodology, enhancing the credibility of the findings and insights generated.

Instrument Used:-

1. Descriptive statistics

The detailed descriptive statistics provided in Table 1.1 offer a comprehensive insight into the central tendencies and variabilities across various variables derived from a substantial sample of 2,309 observations. Notably, CATFAT and CATNFAT, representing categorical measures, exhibit mean values of 0.57 and 0.52 respectively, with corresponding standard deviations of 0.73, highlighting their proximity to the mean. Continuous variables such as OR, LR, and CR demonstrate diverse ranges and degrees of variability, with Oregon's data showing particularly high variability in OR. Additionally, the statistics reveal the relatively low dispersion of values for INF and UNEMP, suggesting tight clustering around the mean for both inflation rate and unemployment rate. Further analysis delineates the breadth of variability in other continuous variables like CG, CAP, SZ, EG, BS, and PROF, each offering unique insights into their respective domains. Overall, these descriptive metrics serve as invaluable tools for discerning patterns, detecting outliers, and exploring inter-variable relationships, crucial for robust data analysis and informed decision-making.

2. Correlation analysis

The correlation matrix presented in Table 2 provides insights into the relationships between different variables. It serves as a crucial mathematical tool for understanding the strength and direction of these connections. In essence, correlation coefficients range from -1 to +1, where -1 signifies a strong negative association, +1 indicates a strong positive relationship, and 0 suggests no correlation. Through this analysis, researchers can identify which variables are closely intertwined and which ones are not. Remarkably, the examination reveals that no correlation among the independent variables surpasses 0.7. This absence of strong associations indicates that multicollinearity, a concern in statistical analysis, is not present in the dataset under consideration. Correlation matrices find application across various domains, including finance, economics, psychology, and biology. They aid in discerning the relationships between stock prices, inflation, and interest rates in financial contexts. Similarly, they help evaluate correlations between diverse psychological traits and assess the connections between biological markers and health outcomes in medical research.

3. Regression analysis

In regression analysis, both CATFAT and CATNFAT measures reveal noteworthy insights into liquidity creation dynamics. Lagged liquidity creation (Lt-1) consistently shows a positive and statistically significant influence on present liquidity generation, indicating persistence in liquidity production over time. Operational risk (OR) significantly impacts liquidity development for CATFAT, reflecting the heightened need for liquidity in the face of larger operational risks. Conversely, credit risk (CR) negatively affects liquidity production for CATNFAT, suggesting that increased credit risk may hinder a bank's capacity to generate liquidity. These findings underscore the importance of considering both broad and narrow liquidity metrics in assessing a bank's liquidity creation capabilities.

Data Analysis and Interpretation

1. Determinants of Bank Liquidity Creation: Conduct regression analysis using measures like CATFAT and CATNFAT as dependent variables. Independent variables could include lagged liquidity creation (Lt-1), operational risk (OR), credit risk (CR), economic indicators (e.g., GDP growth rate), regulatory factors, and bank-specific characteristics. Use statistical tests to determine the significance of these variables in explaining liquidity creation.
2. Consequences of Bank Liquidity Creation: Measure the impact of liquidity creation on various financial and economic outcomes. Assess how liquidity creation affects bank profitability, stability, and risk management. Examine the relationship between liquidity creation and market perceptions, such as stock prices or credit ratings.
Data Analysis and Interpretation: Conduct descriptive statistics to understand the central tendencies and variabilities of variables related to liquidity creation. Perform regression analysis to quantify the relationships between determinants and liquidity creation, interpreting coefficients and significance levels. Use visualizations like scatter plots, histograms, and line graphs to illustrate trends and correlations in the data. Conduct hypothesis testing to validate relationships and draw robust conclusions about the determinants and consequences of liquidity creation.
3. Interpretation of Results: Positive coefficients on determinants like lagged liquidity creation and economic indicators suggest a favorable impact on liquidity creation. Negative coefficients on risk factors like operational risk and credit risk indicate potential constraints on liquidity creation. Significant variables highlight the key drivers of liquidity creation and inform strategies for enhancing liquidity management. Consequences analysis reveals the implications of liquidity creation on bank performance, risk exposure, and market perceptions.
4. Policy Implications and Recommendations: Based on the analysis, provide insights for policymakers and regulators on enhancing liquidity creation in the banking sector. Offer recommendations for banks to improve their liquidity management practices, mitigate risks, and capitalize on opportunities for liquidity creation. Highlight the importance of monitoring liquidity creation dynamics for financial stability and resilience in the banking system. By systematically analyzing the determinants and consequences of bank liquidity creation, stakeholders can gain valuable insights into the factors driving liquidity dynamics and their implications for bank performance and stability.

6. CONCLUSION

Exploring the determinants and consequences of bank liquidity creation underscores its critical role in financial stability. Factors like economic indicators, regulatory environment, and risk management significantly influence liquidity creation. Effective liquidity generation enhances profitability, stability, and market perceptions, while constraints may increase vulnerability to crises. Policymakers should foster conducive regulatory frameworks, while banks must optimize liquidity management strategies. Continuous monitoring and proactive measures are essential for

sustaining liquidity creation's positive impact on financial resilience and growth. Understanding the determinants and consequences of bank liquidity creation is pivotal for financial resilience. Factors such as regulatory requirements, market conditions, and risk management practices shape liquidity dynamics. Effective liquidity creation bolsters banks' ability to meet obligations, enhancing stability and confidence in the financial system. Conversely, inadequate liquidity creation may lead to funding challenges and systemic risks during economic downturns. Policymakers should prioritize robust regulatory frameworks to incentivize prudent liquidity management. Banks must employ strategies to optimize liquidity creation while balancing risks. Continuous monitoring and proactive measures are imperative to safeguard financial stability and promote sustainable growth in the banking sector.

Limitations

Limitations in exploring the determinants and consequences of bank liquidity creation include the complexity of financial markets, which may involve numerous interacting variables. Data availability and quality pose challenges, especially regarding proprietary bank information. Additionally, liquidity creation's effects may vary across different banking systems and economic contexts, limiting generalizability. External factors such as regulatory changes and market shocks can also influence liquidity dynamics unpredictably. Moreover, the analysis may overlook qualitative aspects of liquidity management and fail to capture dynamic shifts in risk perceptions. These limitations underscore the need for cautious interpretation and ongoing research to enhance understanding and inform effective policy and practice.

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