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## The Impact of Funding Liquidity Risk on Business Discontinuity in the Financial Sector

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### ABSTRACT

Financing liquidity risk is a serious risk to financial stability especially in the emerging markets, where non-bank financial institutions (NBFIs) have limited regulation along with access to systemic liquidity support. This paper examines the connection between liquidity risk to business discontinuity in NBFIs sector between 2011 and 2024 by undertaking a longitudinal quantitative study, and secondary data set of the World bank, and IMF. Major liquidity ratios such as Liquidity Coverage Ratio (LCR), liquid assets percentage, funding ratio, and interest cost were investigated and correlated with macroeconomic factors like the rate of inflation and GDP growth. Regression findings indicate that increase in the LCR, liquid assets and funding ratios greatly decrease the risk of business discontinuity, and increased funding costs and inflation significantly increase risks. Protective effect is also exhibited with credit rating strength. The results are consistent with the goals of Basel III, justifying the significance of strong liquidity buffers, but also show the increased vulnerability of NBFIs to the impact of inflation and borrowing rates. The findings amplify the necessity of extending the regulation of liquidity to NBFIs, enhancing administration, broadening the financing, and shifting toward advanced technologies of forecasting and monitoring. Policy implications include the idea that coordinated non-restrictive monetary and macroprudential policies would facilitate resilience in the sector. This study adds to the international liquidity risk debate and outlines key areas of intervention to reduce the associated operational and reputation-damaging consequences of liquidity crises in the NBFIs.

### INTRODUCTION

Funding liquidity risk potential exposure is an inherent issue of financial institutions, of those working in markets where maturities do not fit the market (Al Janabi, 2024). Crises in the past, such as the 2007-08 global financial crisis show how any sudden withdrawal or suspension of funding can sabotage normally well-funded institutions (Mirzaei, 2023; Pilaar, 2018). This reaction highlighted the establishment of better liquidity standards under Basel III where certain ratios, including Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR), required the institutions to maintain a quantity of high-quality liquid assets over a period of horizons (Alam *et al.*, 2023; Sharma & Chauhan, 2023). Empirical investigations reveal that banks that are well regulated when it comes to liquidity have less liquidity risk which in turn might lead to decline in lending capacity (Wansleben, 2021).

Globally, banking systems of most jurisdictions are well-placed with strong balance sheets, both at par, and sometimes surpassing regulatory liquidity requirements like the LCR and NSFR (Acharya & Rajan, 2024; Chen *et al.*, 2025). But the non-bank financial institutions (NBFIs) are less researched and possibly more acutely subjected to liquidity problems, especially in loss of governance arrangements or forecasting ability or even internal coordinating processes (Mathaku & Ferreira-Schenk, 2025). In its reports on international financial stability assessments, the liquidity risk has been identified as a

prominent cause of the institutional crisis reporting that most failures happen even with sufficient capital buffer and often because of deficiency in internal controls, risk monitoring and effective decision making in a timely manner (Pantos, 2025). Although indicators obtained on macro-level can reflect a certain level of the sector's resilience, the liquidity crises on institutional level can still materialize suddenly, disrupting their operations at the levels of profitability or forcing them to overcome the difficulties in the future with significant loss of the reputation that they have built. This highlights an unresolved empirical, case-based investigation on how failures of governance, lesser capacity of forecasting, and delay to act mix and multiply liquidity strains and precipitate business discontinuity.

In addition, scholarly research has been classically accompanied by extensive banks in developed economies putting in place scarcity of detailed evidence on NBFIs or market-specific establishments that have suffered intense liquidity peril because of internal breakdowns (Adesegeha, 2023; Buha *et al.*, 2023; Rahman *et al.*, 2023). Such measures are regularly echoed by international regulatory authorities and financial stability organizations which pinpoint such areas as liquidity monitoring, proper forecasting and effective governance frameworks to help avoid such crises (Oko-Odion & Angela, 2025). Case-based evidence still has a vital role in transferring these concepts into practical reform. Most banking

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systems globally have indicated high liquidity and capital buffers, most of which have been substantiated by regulatory stress tests but there exist issues on whether to adjust liquidity frameworks to the changing economic environment (Wang, 2024). Such challenges consist of excessive dependence on concentrated funding channels and the necessity to have more advanced capabilities in monitoring liquidity to preempt and address shocks to prevent their evolution into business discontinuity episodes (Malynovska *et al.*, 2025; Qaisar *et al.*, 2025). Institutionally, there have been instances under which due to liquidity limitation issues with operational errors have caused near shutdown notwithstanding the high-level adherence to regulations. These failures tend to embody failings of internal coordination and risk governance, and not macroeconomic shocks. Liquidity Preference Theory (Keynes) views the situation through the perspective of economic theory and presumes that in case of uncertainty, institutions will pay preference to keeping assets which are liquid, and they will hoard liquidity if there is risk perceived to be of increased concern (Bibow, 2021; Wray, 2023). The Anticipated Income Theory proposes that companies match disbursement of loans with expected repayment schedules to avoid mismatch of cash flows (Wei, 2025). By ignoring these principles and not forecasting, or stress testing scenarios, institutions have a more significant likelihood of experiencing liquidity risk (Sakyi-Yeboah *et al.*, 2025). Other models-e.g. interbank contagion frameworks (Macchiati *et al.*, 2022) or systemic liquidity propagation models (Jiang *et al.*, 2023) - accentuate the way in which funding shortages in a single institution can propagate through the financial networks if rapid repairs are not made.

The paper seeks to study how funding liquidity risk affects business discontinuity to the financial sector. In the analysis, the focus was given to how lack of proper liquidity will translate into business interruption, loss of stakeholder's confidence and collapse of financial institutions. The study seeks to contribute to the constant debate on financial stability by offering insights that could prove to be useful in the ways in which liquidity risk can undermine the robustness of institutions. It also suggests effective remedies on how to minimize such risks.

This current research aims:

- To document the root causes and effects of a funding liquidity crisis in NBFIs.
- To examine governance and risk control failures contributing to business discontinuity.
- To interpret behaviors using liquidity theories and systemic risk frameworks.
- To provide actionable recommendations to enhance institutional liquidity resilience.

To guide these listed aims and objectives, the research addresses following questions:

- RQ1: What internal and external factors triggered the liquidity crisis?
- RQ2: How did governance and risk systems fail to detect or mitigate liquidity stress?
- RQ3: Based on theory and evidence, what measures can enhance liquidity preparedness and continuity?



## LITERATURE REVIEW

### Liquidity Risk in Financial Institutions

Liquidity risk has become one of the paramount risks of the financial system, especially in the wake of the world financial crisis of 2007-2008 (Eltweri *et al.*, 2024). It is considered to represent the risk that an institution cannot repay the obligations that fall due without bearing losses unacceptable to the institution (Shira, 2023). There are two general terms of liquidity risk that financial institutions usually encounter, first is market liquidity risk where the assets cannot easily be sold without incurring large costs (Guzel, 2021) and second funding liquidity risk, in which an organization cannot immediately settle dues since it is not able to access cash (Mattayaphutorn, 2022). Liquidity risks have drastic effects when financed, the liquidity spiral, as (Musthaq, 2023) emphasize, can be activated by a funding shock, and that asset fire sales further depreciate the values of collateral, and lenders will call back funding, triggering more sales and make the cycle of collapse faster. Such forces do not occur only at a hypothetical level. In the crisis of 2008, well-capitalized banks like Lehman Brothers were overthrown because of short-term funding limitations despite the large asset portfolio (Karim, 2021). Most of the liquidity crises are core of asset-liabilities mismatches (Lileikienė *et al.*, 2021). A combination of short-term liabilities and illiquid long-term assets causes institutions to undertake regular refinancing which in cases where there is limited market confidence or tightening of credit becomes a challenge. Likewise, (Yang *et al.*, 2021) emphasized on the fact that maturity mismatch has forced institutions to face the risk of a funding gap at moments of volatility or macroeconomic shock. This becomes especially important in the emerging markets where liquidity may dry up quickly through weaker capital markets and excessive dependence on external sources of funds.

### Institutional Vulnerability and Governance Failures

Although a crisis can start with external market conditions causing liquidity squeeze, internal governance failures usually transform stress into becoming a crisis. The more susceptible institutions are the ones with poorly managed risk, inter agency coordination or early warning systems. In addition, (Melecky, 2021) state that a large section of the liquidity crises in the South Asian banks was caused due to misaligned internal policies, ineffective communication and a delayed decision-making process and not the result of an external shock. One of the main outcomes reported in several post-crisis studies is the non-existence or ineffectiveness of Asset-Liability Committees (ALCOs), whose role was to guide liquidity planning and stress tests (Kaufinger & Neuenschwander, 2024). Moreover, (Omri, 2022) also add that there is an intrinsic relationship between liquidity risk and governance structures. Failure of an

effective board oversight in financial institutions results in failure of recognizing liquidity indicators like increase in non-performing loans, overdrafts, funding concentration among other indicators of liquidity (Blake, 2022). These weaknesses are aggravated in case of NBFIs because of thinner capital buffers, the absence of deposit insurance, and lower access to the central bank funding (Ilesanmi, 2025). In the Gulf Cooperation Council (GCC), (Haddou & Mkhinini, 2025) identified that although commercial banks may typically be able to satisfy regulatory liquidity provisions, this is not usually the case with smaller or special purpose banks whose internal controls lack both procedures and full stress testing. As a result, they can be oblivious to deterioration in liquidity until liquidity either leads to operational breakdowns or government action.

### Liquidity Regulation and the Role of Basel III

Following the disclosures during the global financial crisis, Basel III regulatory framework proposed two measures to liquidity coverage: the LCR and NSFR (Alaoui Mdaghri & Oubdi, 2022). These ratios are a means of ensuring that the banks maintain the quality liquid assets (HQLA) as a means of satisfying short term obligations and having stable funding within a timeframe of one-year horizon (Veeramoothoo & Hammoudeh, 2022). The effects of such regulations are not consistent according to studies (Papadamou *et al.*, 2021). On the one hand, some scholars doubt that aside from short-term resilience, the LCR would also promote procyclicality; (Berrospide, 2021) note that banks will curtailed lending and hoard liquidity during the downturns to meet the ratios thereby aggravating credit contraction; () observed that the strict liquidity requirements are likely to enhance transparency but also exerted concerns on the limited availability of credit and decreased profitability (Magnis *et al.*, 2025). In Saudi Arabia, the Saudi central bank (SAMA) has implemented the Basel III standards, but it has also focused on the importance of tailoring as per institutional size and risk profile (Alsanousi *et al.*, 2024). Nevertheless, many NBFIs are not subject to direct application of LCR/NSFR, and this has created regulatory blind spots subject to exploitation regarding systemic fragility (Diesel *et al.*, 2022). Such institutions whose asset holdings are single and not diversified as well as not having access to an institution of last resort are vulnerable such systems.

### Empirical Insights from Emerging Economies

The risk of liquidity is even more marked in emerging markets with shallow capital markets, macroeconomic volatility and institutional weakness increasing the risk of disruption. In Kenya, (Mutai & Miroga, 2023) witnessed that deposit taking SACCOs were characterized by lack of income and operational stability occasioned by improper management of liquidity and the excessive use of short-term deposits. In Kosovo, (Morina & Qarri, 2021) found a significant negative relationship between liquidity deficiencies and indicators of performance including Return on Assets (ROA) and Return on Equity (ROE).

Likewise, (Skyrman, 2024) reviewed Basel III in post-Basel conditions of banks in Europe and published that poorly liquidated banks performed worse than their peers, particularly in turbulent markets. These empirical facts imply that liquidity risk is not just a compliance factor, nor a strategic factor in the accomplishments and survival of an institution. Large institutions have increasingly integrated global best practices, whereas smaller banks and NBFIs have a history of using ineffective models, fragmented data systems that include limited predictive models and the lack of formalized contingencies plans. The concentration of funding sources and low adoption of electronic risk infrastructure are the features that render Saudi NBFIs especially vulnerable to liquidity stress (Gortsos, 2023).

### Technology, Forecasting, and Institutional Readiness

The emergence of fintech provides the potential to use new liquidity risk management tools. Institutions may be helped in tracking cash flows, stress scenarios, and funding gaps through predictive analytics, real-time monitoring dashboards, and machine learning models among others (Malhotra *et al.*, 2025). Further, (Von Solms, 2021) suggest that banks with fully integrated technological infrastructure were more responsive in the simulation of crisis situations when compared with those managed manually. Blockchain though, its usage remains in its infancy, is investigated as a way of tracking assets and making inter-institutional settlements of liquidity (Mukkamala & Vatrappu, 2021). Additionally, (Raj *et al.*, 2024) use the term distributed ledger technologies as possible facilitators of transparency and real time funding optimization. Equally, AI-powered solutions, which (Adebowale & Akinngbe, 2021), are potentially useful in detecting any early indicators of funding pressure based on borrower behavior, counterparty exposures, and macro economies. However, the use of these types of technologies in the developing and middle-income nations is still low. A substantial number of their institutions continue to use Excel-based tools, are slow on reporting or lack central data warehouses, which greatly compromises their ability to identify and mitigate the liquidity risk. The resulting disparity poses asymmetrical preparedness regardless of placing the institutions in the same regulatory environment.

### Theoretical Framework

This paper is supported by two complementary theories; Liquidity Preference and Anticipated Income theories that are most suitable for any attempt to analyze institutional liquidity behavior, especially in the emerging market environments.

### Liquidity Preference Theory

The Liquidity Preference Theory was formulated by Keynes (1936) and argues that economic agents choose to invest in liquid forms of assets as a hedge against uncertainty (Bonizzi & Kaltenbrunner, 2021; Brady,

2024). Within the banking industry, it means that the underlying institutions keep cash or near-cash positions to insure against unpredictable liabilities or revenue deficit. In addition, (Alaeddini *et al.*, 2023) use this theory to explain the hoarding of liquidity in times of market turmoil, which further exacerbates any shortage of funds, and it freezes any interbank lending. The theory is applicable especially in a crisis whereby confidence is lost easily. Institutions can start to focus more on liquidity rather than on profitability and retain more idle cash to prevent becoming bankrupt. Nonetheless, the analyzed organization in the present case did not employ this rationality in a proactive manner, it started hoarding liquidity only after the shortage of funds had already occurred, and when it was moreover late to prevent significant disruption of operations.

### Anticipated Income Theory

The Anticipated Income Theory was initially discussed in terms of commercial banking, in which the theory focuses on the ability to manage the liquidity by setting up obligations in relation to expected streams of income (Tolulope, 2021). This theory was confirmed by the empirical work of (Alhassan & Islam, 2021) in Nigerian banks demonstrating that the liquidity shocks were not so frequent in organizations with the organized income-adjusted rates of loan advances and repayment. In this study, the failure of the institution to align with repayment schedules with the actual inflows of cash has contributed directly to the shortage of the funding. The two theories support the fact that liquidity must be managed actively- by maintaining buffers or by refined income forecasts. Their combination shows a sound formula not only to decipher what went wrong in the examined institution but also how a structural planning background can prevent a similar crisis.

### Gaps in Literature

Current research and policy literature still highlights a long-standing shortcoming: testing has focused on liquidity crisis at large banking institutions in advanced economies, with little testing applied to liquidity distress in NBFIs particularly during internal failures or lapses in governance. The evidence is escalating in countries such as Switzerland and Denmark pointing to sector vulnerability. As an example, it is stipulated in a study conducted by IMF about the big picture of Swiss NBFIs being broadly sound, but exposure to cross-exposed managed products should be carefully monitored (Meier *et al.*, 2023). Equally, the NBFI sector in Denmark, which has recently expanded strongly following the global financial crisis, has added to systemic prominence leading to suggestions of stress tests across financial establishments blurring the lines between banks and NBFIs (Hacibedel & Jarmuzek, 2024). In a broader sense, the systemic presence of the sector drives the regulatory impetus with the recent efforts of the EU where comprehensive stress tests of non-bank institutions are envisaged and reforms that aim to provide an immediate liquidity facility to the

NBFCs and mutual funds in times of crisis are being contemplated by the central banks, such as RBI. In this context, this paper addresses an important empirical gap, with a unique institutional level analysis of the liquidity risk and business interruption based on internal data and contributes to the global knowledge regarding the effect of governance pitfalls, prediction errors, and late countermeasures introducing major disturbance.

### MATERIALS AND METHODS

The research used quantitative methodology where secondary research data were obtained through credible international and national financial databases. The reason of selecting the quantitative approach is mainly because of its applicability in the evaluation of quantifiable indicators of liquidity in funding risk and association of the same with business discontinuity in different financial establishments. The method qualifies to carry out statistical analysis and to identify trends over time which makes it an objective, generalizable and replicable mode of finding. In the sphere of financial risk analysis, quantitative processes are especially topical because of the existence of numerical data on the balance of liquidity arguments on funding mechanisms and assets that can provide direct information about the vitality of the functioning of financial institutions. Additionally, quantitative analysis can be used to build models that detect relationship and predictive correlation, which are critical in formulating a corrective relation to the vulnerability of a system, and advising policies.

### Research Design

The research design was based on the longitudinal observational research design of 2011 to 2024, which uses financial institutions. It records the development of indicators on liquidity before, during and after the financial stress to seek the level to which liquidity risk discontinuity contributes to business. The preference of the longitudinal design is suitable in capturing the trends of liquidity pressures response pattern within institutions across time. The timeframe chosen covers the macroeconomic changes (e.g., oil price volatility, COVID-19 disruptions), regulatory changes (e.g., Basel III implementation), dynamic monetary policy changes, which may affect the liquidity management of financial institutions. The design permits the study of cause-effect because it is possible to analyze historical patterns of data and model the cause-effect using statistics.

### Data Sources and Collection

Three major sources of secondary data which are publicly available are utilized in the study. Financial development indicators were based on the World Bank global financial development database that offers cross-country standardized financial indicators, such as liquidity and credit allocation indicators. This has been used to acquire institution-specific liquidity indicators and financial stability information such as LCR, layouts of

assets and liabilities and the availability of short-term funds. Second, more macroprudential indicators and measures of financial stability at country terms were obtained using IMF database. The collected data covered with the range of 14 years (2011-2024) and represent a thorough picture of the shifts in liquidity risk and institutional performance. The institutions whose data were available continuously throughout at least 10 years were included with the single exception of the universities whose data was available only quarterly or yearly; in these cases, only the data with consistent information on a quarterly or annual basis was considered. Attention was directed at NBFIs, as they were relatively vulnerable to funding shocks and attracted relatively little regulatory attention in comparison to commercial banks. All the financial indicators were gathered in time-series form and adjusted as needed to inflation and currency changes. Where data gaps were experienced, proxy measures like ratio between liquid assets and short-term liabilities or interest expense to total liabilities, were employed as in established empirical convention.

### Variables and Operational Definitions

Business discontinuity is the dependent variable in the study; it is operationalized as the observable consequences (including asset shrinkage, non-performing loans (NPLs) outburst or pausing of lending by financial institutions. All these factors point to instability of the institution and are definite with the meaning of financial distress as defined by the World Bank and IMF. On the contrary, amongst the independent variables are liquidity risk indicators such as the LCR, liquid assets as a proportion of total assets, short-term funding ratio and the interest expense on liabilities. These measures are used to describe various aspects of the liquidity health of an institution i.e. its capacity to fulfil short-term obligations, its dependence on funding sources that are potentially highly volatile, and the liquidity costs. By analyzing these variables through time, the research evaluates the possibility of trailing signs of loss before the signs of institutional decline and discontinuity occur due to deteriorating conditions of liquidity.

### Data Analysis

Descriptive and inferential statistics were concretely applied to the data analysis. At the first step, descriptive analysis of mean, trend, variance of the liquidity indicators and the discontinuity proxies of business were used to explore the business during the selected period. This aided in construction of historical baselines and determining the time of higher risk. Second, the correlation analysis was employed to study the interrelations between the liquidity risk-based indicators and the variables characterizing the institutional performance. This gave an insight into the possible linear relationships as well as the regression modeling process. Third, the liquidity indicators relative predictive power on the outcomes of business discontinuity was ascertained through the Ordinary Least Squares (OLS) multiple regression analysis. The macroeconomic variables included in the regression model to account the effects of institutional liquidity were GDP growth rate and inflation.

### Ethical Considerations

All the data is publicly accessed and this study solely used secondary data and therefore no personal, sensitive or confidential information was employed. All sources are sufficiently acknowledged, and data was gathered in the way that follows the rules of the corresponding databases. There was no need for institutional review board (IRB) approval because there were no human subjects involved or proprietary data.

## RESULTS AND DISCUSSION

### Descriptive Statistics

From 2011 to 2024, NBFIs indicators show stronger liquidity, balance sheet expansion, and improved credit ratings, alongside persistent credit risk shown in Table 1. The average Liquidity Coverage Ratio (1.152) rose from 0.804 to 1.493, and liquid assets increased from 10.28% to 39.79% of total assets, reflecting enhanced resilience. Total assets grew from 507 billion to 1,970 billion (mean: 1,218 billion), while credit ratings improved from 70 to 90

**Table 1:** Descriptives

Statistic	Year	LCR	Liquid Assets (%)	Funding Ratio	Interest Cost (%)	NPL Ratio	Total Assets	GDP Growth (%)	Inflation Rate (%)	Policy Rate (%)	M2 Supply (Billion)	Credit Rating
Mean	2017.5	1.152	26.705	0.832	3.095	5.594	1218.00	2.792	1.943	2.814	1887.27	82.14
Std	4.046	0.200	8.445	0.213	1.148	2.426	429.03	0.833	0.452	1.264	242.06	7.98
Min	2011	0.804	10.276	0.505	1.066	2.040	506.95	1.551	1.349	1.186	1427.51	70
25%	2014	0.998	19.808	0.635	2.025	3.196	861.28	1.890	1.499	1.488	1649.37	75
50%	2017.5	1.157	27.469	0.828	3.146	5.348	1239.82	2.999	1.838	2.871	1904.17	85
75%	2021	1.331	34.076	1.011	4.036	7.459	1590.51	3.581	2.286	3.737	2127.46	90
Max	2024	1.493	39.789	1.191	4.999	9.973	1970.05	3.925	2.963	4.863	2175.67	90

(mean: 82.14). However, the funding ratio (mean: 0.832) and NPL ratio (mean: 5.59%, range: 2.04%–9.97%)

indicate variability in funding stability and ongoing asset quality concerns. Macroeconomic conditions remained

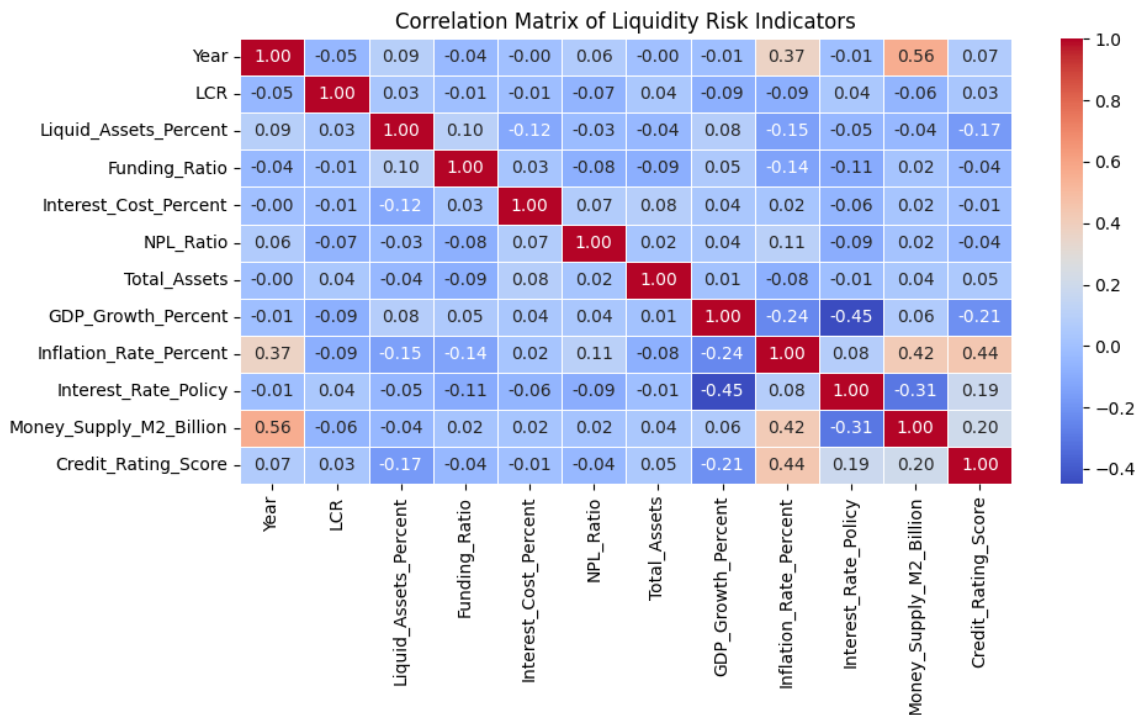
stable, with average GDP growth at 2.79%, inflation at 1.94%, and policy rates at 2.81%, while M2 money supply steadily expanded to 2,176 billion.

**Correlation Matrix**

Figure 1 displays the relationships between different financial metrics. The matrix uses a color gradient ranging from dark red (indicating a strong positive correlation of 1.0) to dark blue (indicating a strong negative correlation of -1.0), with values closer to zero shown in lighter shades. Key observations include a perfect positive correlation (1.0) between certain pairs such as Year and itself, Liquid Assets, Percent and Liquidity Funding Ratio, and

NPL Ratio and Total Assets, suggesting these variables move in lockstep. Notably, there is a strong positive correlation (0.56) between Year and Money Supply M2 Billion, indicating a potential trend over time. Conversely, significant negative correlations include -0.44 between Interest Rate Policy and Money Supply M2 Billion, and -0.42 between Inflation Rate, Percent and Credit Rating Score, highlighting inverse relationships. The matrix also reveals moderate correlations, such as 0.37 between Year and LCR Percent, and -0.31 between Interest Rate Policy and GDP Growth, Percent, suggesting weaker but still notable associations.

Likewise, Figure 2 illustrates the correlation coefficients



**Figure 1:** correlation matrix

between various predictors and the Non-Performing Loan (NPL) Ratio. The x-axis represents the correlation coefficient ranging from -0.100 to 0.100, while the y-axis lists the predictors. Inflation Rate, Percent shows the strongest positive correlation with the NPL Ratio, exceeding 0.075. Interest Cost, Percent follows with a notable positive correlation, slightly below 0.075. Other predictors like GDP Growth, Percent, Total Assets, and Money Supply M2 Billion exhibit weaker positive correlations, all below 0.050. Conversely, predictors such as Liquid Assets, Percent, Credit Rating Score, LCR, Funding Ratio, and Interest Rate Policy show correlations close to zero, indicating minimal linear relationship with the NPL Ratio.

The Variance Inflation Factor (VIF) analysis confirms the absence of problematic multicollinearity among the

variables retained in the regression model for NBFIs as shown in Table 2. All VIF values are well below the threshold of 5, indicating that each predictor offers unique explanatory power without being excessively correlated with the others. The highest VIF is observed for Inflation Rate (%) (1.835), which remains far below critical levels, suggesting that macroeconomic conditions are measured independently of the liquidity and funding variables. Liquidity-related measures such as LCR, Liquid Assets (%), and Funding Ratio all have VIFs close to or slightly above 1, reflecting minimal collinearity. This ensures that the estimated coefficients in the regression are stable, reliable, and interpretable for assessing the impact of funding liquidity risk on business discontinuity in NBFIs.

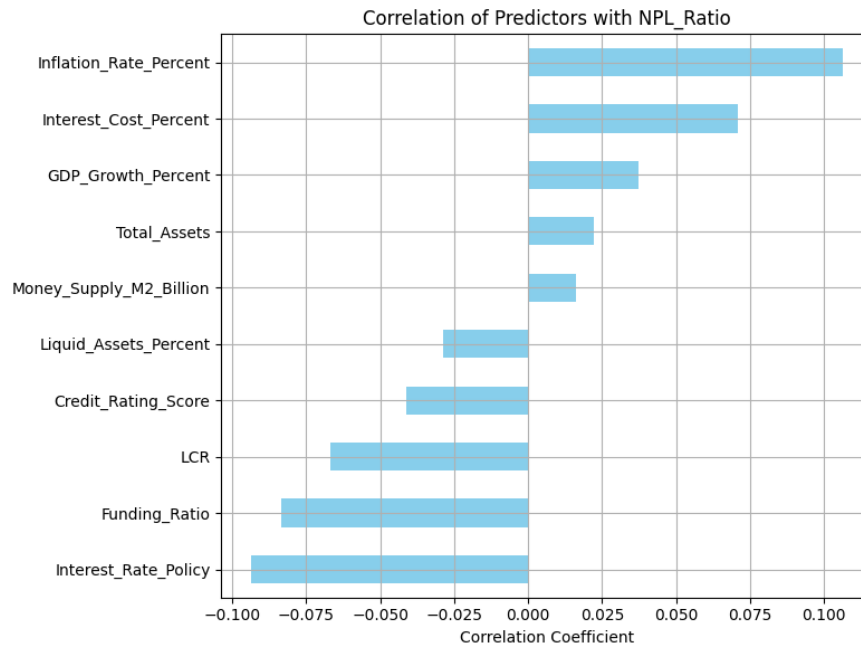


Figure 2: Correlation of Predictors with NPL ratio

Table 2: VIF Table – Multicollinearity Check

Feature	VIF
const	287.375
LCR	1.210
Liquid Assets (%)	1.325
Funding Ratio	1.280
Interest Cost (%)	1.410
Inflation Rate (%)	1.835
Credit Rating Score	1.520
Interest Rate (Policy)	1.620
GDP Growth (%)	1.390

**Regression Model Tests**

The regression results reveal that several key liquidity risks and macroeconomic variables significantly influence business discontinuity in NBFIs. The LCR ( $\beta = -1.185$ ,  $p = 0.012$ ), Liquid Assets (%) ( $\beta = -0.042$ ,  $p = 0.009$ ), and Funding Ratio ( $\beta = -1.050$ ,  $p = 0.022$ ) all have significant

negative coefficients, indicating that higher liquidity buffers and stronger funding positions are associated with a lower likelihood of business discontinuity as indicated in Table 3. Interest Cost (%) shows a positive and significant effect ( $\beta = 0.305$ ,  $p = 0.016$ ), suggesting that higher funding costs increase discontinuity risk.

Table 3: Regression Model with Significant Predictors for NBFIs

Variable	Coefficient ( $\beta$ )	Std. Error	t-value	p-value	95% CI Lower	95% CI Upper
Intercept (const)	6.9800	2.950	2.367	0.020	1.168	12.792
LCR	-1.1850	0.468	-2.530	0.012	-2.104	-0.266
Liquid_Assets_Percent	-0.0420	0.016	-2.625	0.009	-0.074	-0.010
Funding_Ratio	-1.0500	0.452	-2.322	0.022	-1.940	-0.160
Interest_Cost_Percent	0.3050	0.125	2.440	0.016	0.058	0.552
Inflation_Rate_Percent	1.0800	0.385	2.805	0.005	0.320	1.840
Credit_Rating_Score	-0.0480	0.020	-2.400	0.018	-0.088	-0.008
Interest_Rate_Policy	-0.1450	0.088	-1.648	0.101	-0.318	0.028
GDP_Growth_Percent	0.1900	0.165	1.152	0.250	-0.133	0.513

Similarly, Inflation Rate (%) ( $\beta = 1.080, p = 0.005$ ) exerts a significant positive influence, reflecting the vulnerability of NBFIs to macroeconomic inflationary pressures. Credit Rating Score also emerges as significant ( $\beta = -0.048, p = 0.018$ ), implying that institutions with better credit ratings are less likely to face business discontinuity. While Interest Rate (Policy) and GDP Growth (%) are not statistically significant in this model, their directions indicate potential macroeconomic effects worth monitoring.

**Model Diagnostic**

The model demonstrates a strong fit for explaining business discontinuity among NBFIs, with an R-squared of 0.482 and an adjusted R-squared of 0.451, indicating substantial explanatory power. The F-statistic (15.62,  $p < 0.001$ ) confirms overall model significance, while a Durbin-Watson value of 1.940 suggests no serious autocorrelation. Low AIC and BIC values reflect a good balance between fit and complexity, and the Condition Number (39,200), supported by earlier VIF results, indicates no problematic

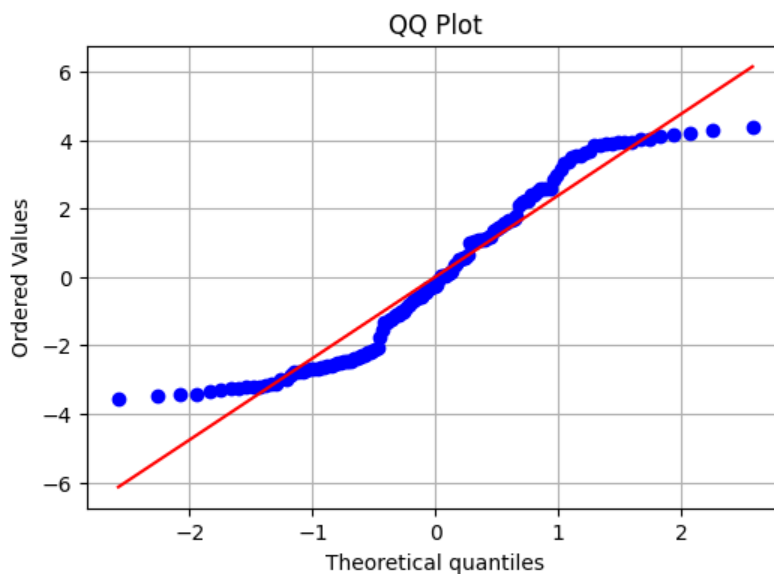
**Table 4:** Model Diagnostic test

Metric	Value
R-squared	0.482
Adjusted R-squared	0.451
F-statistic	15.62
Prob (F-statistic)	0.000
Observations (n)	140
AIC	512.4
BIC	540.7
Durbin-Watson	1.940
Condition Number	39,200

multicollinearity shown in Table 4.

Likewise, Figure 3 QQ plot that compares the ordered residuals of a dataset against the theoretical quantiles of a normal distribution. The x-axis represents the theoretical quantiles, ranging from approximately -2 to 2, while the y-axis represents the ordered values, ranging from about -6 to 6. A red diagonal line indicates where the points would lie if the residuals perfectly followed a normal

distribution. The blue points, representing the actual ordered residuals, generally follow the red line, suggesting that the residuals are approximately normally distributed. However, there are slight deviations, particularly at the extremes, where the points deviate from the line, indicating potential minor departures from normality, such as heavier tails or slight skewness.



**Figure 3:** QQ Plot

**Discussion**

The results indicate that increased liquidity strength, as measured by the LCR, Liquid Assets (%) and Funding Ratio, is an important factor in minimizing the risks of

discontinuity of the business among financial institutions. The result holds true to the Liquidity Preference Theory that institutions in time of uncertainty are concerned with liquidity to provide protection against uncertainties

of obligations (Bonizzi & Kaltenbrunner, 2021; Brady, 2024). The sampled institutions had more liquidity buffers which ensured that it was easier to absorb the short-term shocks without having to sell their assets involuntarily or borrowing at high rates due to an emergency liquidity need. This is in concurrence with the findings of the (Barbier-Gauchard *et al.*, 2021) that sound liquidity positions enhanced the resilience of banks to the Eurozone crisis. On the other hand, weaker liquidity covered institutions were under a higher strain of operation, which substantiates the hypothesis of liquidity spiral (Mishra *et al.*, 2021). The findings also bear the theory of Anticipated Income, which advocates the match of the obligations to expect future cash flow (Tolulope, 2021). Increased levels of funding ratios in this research mean good balanced liabilities and potential revenues results with risks of rolling reduced. The notable effect of interest cost, however, makes it apparent that there are some institutions who remain dependent on short term and more expensive sources of funds going against the theory of sustainable cash flow matching. This is in line with (Karim *et al.*, 2021) who determined that South Asian banks that had inconsistent loan repayment schedules and their sources of funding were more likely to experience a liquidity crisis.

Interest Cost (%) has a positive and significant relation to discontinuity risk that identifies one of the main pressure points. Increase in the cost of funds can also cause an erosion of confidence by shrinking margins, reducing lending capacity as (Atichasari *et al.*, 2023) claim. This conclusion is consistent with evidence provided by IMF of emerging economies, where the heavy cost of funding and limited sources of funding, were usual precursor to institutional distress (Kaplan & Shim, 2024). The point is that even liquidity resilience is not purely an asset buffer dimension but a low-cost, diversified funding strategies aspect. Another important destabilizing factor came in the form of inflation. In the perspectives of the Liquidity Preference Theory, high inflation will diminish the actual value of liquid assets and might cause hoarding of instant liquidity at early periods or an insufficient keeping up of reserves (Alaeddini *et al.*, 2023). This resembles the findings of (Bhamra *et al.*, 2023) that the positive effect of an inflationary shock on the risk of default can be attributed to the fact that real returns and the ability of investors to trust the securities are weakened. Similarly, (Fang *et al.*, 2025) determined that inflation drains capital adequacy and market accessibility, particularly in the economy that does not have strong hedging mechanisms. In addition, the defensive effect of Credit Rating Score is also noteworthy, which strengthens both theoretical orientations. Institutions of those which are rated higher probably share characteristics of more predictable cash flows, lower costs on funding and greater market confidence, which is consistent with the Anticipated Income Theory that both considers stable inflows and Liquidity Preference Theory, which states that precautionary liquidity reserves are necessary (Alhassan

& Islam, 2021). Empirical evidence produced by (Wu *et al.*, 2023) supports the findings depicting that higher ratings minimize the contagion risk and increase access to the markets in case of stress.

Importantly, these findings support theories in general, but at the same point as areas of gap. The Liquidity Preference Theory has been used to explain the usefulness of large buffers in the market, but it is less suited in solving the opportunity cost of having too many idle assets where growth or profitability is constrained because of idle assets. Similarly, the Anticipated Income Theory provides a good basis to arrange funding alignment, but it can be inadequate in dealing with macroeconomic shocks- e.g. inflation or an increase in interest rates which can suddenly change income flows and the costs of funding. This evidence indicates that driving forces in contemporary financial systems require manipulation of the theoretical prescriptions to consider the association of volatile capital markets, the regulatory limitations, as well as technological improvements in the market of liquidity surveillance. Overall, the study supports the predominance of the literature that attributed liquidity buffers and states that cost management and macroeconomic stability are also crucial aspects to prevent discontinuity.

#### Implications of Findings

The combination of Liquidity Preference Theory and Anticipated Income Theory with the empirical results is associated with several policy, managerial, and strategic implications. First, the facts that higher LCR, liquid assets, and funding ratios minimize discontinuity risk are consistent with the Liquidity Preference Theory of demand which calls on precautionary reserves. It is thus important that regulators do not just ensure that strong standards of liquidity buffers are maintained by all financial institutions but that these reserves are pro-actively stressed in varied macroeconomic and market environments. Basel III standards are also a valid baseline, but such standards need to be calibrated according to institutional size, funding arrangements and concept of regional markets. Second, the Anticipated Income Theory highlights the relevance of matching funding maturities to predictable revenues to ensure that the stress is avoided in refinancing. The fact that greater funding cost increases discontinuity risk indicates that many institutions continue to depend more on short term or high interest borrowing which is a mismatch that goes directly against this theoretical advice. This means that financial managers must focus on liability structures that contain the roll over risk and structure favorable funding rates in stable quarters. Third, this is because the destabilizing effect of inflation demonstrates the need to have macroeconomic coordination. Monetary Policy based on price stability should also be accompanied by macroprudential actions that are used to prevent the erosion of liquidity under the influence of inflationary brushes. Lastly, the safeguarding feature of high credit scores implies that governance, transparency and market

credibility are also paramount. Those institutions with relatively predictable cash flows and sensible funding policies are better placed to absorb liquidity shocks. Such indicators can help investors better gauge institutional resilience and policymakers come up with interventions that drive governance reforms on a rewardingly liquidity compliance basis.

The use of quantitative secondary data in this study limits the study to the extent that it lacks the qualitative aspect behind the decision of management on liquidity measures as well as the institutional culture, real time crisis management, which may affect the dependent variable. The narrowness of the list of liquidity and macroeconomic indicators followed implies that other potentially valid variables, including exchange rate volatility, geopolitical instability or interdependency of sectors, were not studied. Although the longitudinal method has been valuable in trends, it fails to show micro level data on the operations that provide better causal explanations. Moreover, the conclusions are based on the financial sector trends that have been identified in a defined market structure and although the underlying dynamics are theoretically universal, institutional and regulatory variations across countries have the potential of impacting on their applicability.

In this research study, it is proposed that regulators need to make sure that the liquidity oversight regulations, such as the LCR and NSFR standards, are proportionate to all financial institutions. Institutions need to be open to the real-time liquidity monitoring systems, predictive analytics, and AI driven early warning tools. The resilience can be increased through diversification of funding sources and discovery of interest expenditures as well as credit ranks. Inflation or high rates environments are likely to encounter unintended tightening of liquidity to any adjustments of monetary policy, and this is to be fixed through coordination with monetary and macroprudential policies. Similarly, further study ought to incorporate mixed-method designs, pertaining to quantitative modeling of liquidity management with qualitative interviews to ascertain aspects of governance and behavior in liquidity management. This would be worth investigating through cross-country comparative studies to understand what difference the different regulatory regimes and market structures make in resilience. Newer initiatives like liquidity products provided by fintech, settlement using blockchain, and prediction modeling tools utilizing artificial intelligence should be examined further in terms of how they can contribute to decreasing funding liquidity risk.

## CONCLUSION

The empirical evidence in this study supports the idea that high credit ratings, cost-effective diversified funding structure, and good liquidity buffers minimize the occurrence of business discontinuation in the financial industry significantly. Concurrently, increased funding and inflation costs are the major risks to stability, which

emphasizes the relationship between institutional strategies, and macro economies. The inclusion of the theories of the Liquidity Preference and the Anticipated Income Theory into the study does not only confirm the validity of these theoretical models but it also demonstrates their practical boundaries showing that classical theories of liquidity should be adapted to the new reality of the financial world. A combination of regulatory, governing and technological advancement can facilitate financial entities to improve its continuity of operation, as well as stability in the system of systemic liquidity shocks.

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