

"CAUSAL ANALYSIS OF THE RELATIONSHIP BETWEEN NET STABLE FUNDING AND BANK INVESTMENT: A STUDY ON A SAMPLE OF IRAQI PRIVATE COMMERCIAL BANKS FOR THE PERIOD (2017–2020)"

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To Cite This Article: Nuaimi, Z. A. M. A.-., & Sabawi, L. K. A. A.-. (2025). "CAUSAL ANALYSIS OF THE RELATIONSHIP BETWEEN NET STABLE FUNDING AND BANK INVESTMENT: A STUDY ON A SAMPLE OF IRAQI PRIVATE COMMERCIAL BANKS FOR THE PERIOD (2017–2020)". Journal of Advance Research in Business, Management and Accounting (ISSN: 2456-3544), 11(4), 12-16. <https://doi.org/10.61841/bzypyb84>

ABSTRACT

This study aims to measure the causal relationship between Net Stable Funding, represented by its indicators (Net Stable Funding Ratio, Loans to Total Deposits Ratio, and Cash to Total Deposits Ratio) as explanatory variables, and Bank Investment, represented by its indicators (Bank Investment to Total Deposits Ratio, and Bank Investment to Total Assets Ratio) as dependent variables. The research investigates the direction of this relationship using the Granger Causality test for short-term data and the Toda-Yamamoto causality approach for long-term data. Additionally, the correlation between the research variables is measured using the statistical software EViews 10. The study population consists of Iraqi private commercial banks. A sample of ten private banks listed on the Iraq Stock Exchange was selected due to their financial contribution to the development of the Iraqi banking sector. The research hypothesis was tested using a descriptive-analytical method based on the banks' annual reports for the period from 2017 to 2020.

Keywords: Net Stable Funding, Bank Investment, Iraqi Private, Net Stable Funding.

INTRODUCTION

Net Stable Funding (NSF) is one of the core requirements of the Basel III framework for banking supervision. In light of current developments in the banking environment, banks are increasingly required to maintain a high Net Stable Funding Ratio (NSFR) to withstand potential financial crises and to ensure adequate coverage of all funding and investment needs. Given the various economic transformations, the banking sector remains vulnerable to multiple crises.

RESEARCH PROBLEM

1. The Iraqi banking sector has been repeatedly exposed to financial crises. In this context, liquidity constitutes a vital pillar for the banking system in general and for commercial banks in particular, as it reflects the bank's ability to fulfill its financial obligations to depositors over the short, medium, and long terms. Any disruption in banking liquidity could lead to financial distress. Banks have demonstrated commitment to disclosing liquidity ratios (up to 30%) and adhering to the regulatory requirements set forth by supervisory authorities. With the Central Bank of Iraq aligning with international standards, including those set by the Basel Committee on Banking Supervision—particularly the NSFR—this study frames the research problem through the following questions:
 1. Is there a relationship between Net Stable Funding and bank investment?
 2. Do Iraqi private banks maintain an adequate level of Net Stable Funding?

RESEARCH IMPORTANCE

The significance of this study lies in its focus on Net Stable Funding, which is a key reform requirement under Basel III. By assessing the application of this ratio in Iraqi private banks, the research highlights these banks' ability to respond to financial crises, mitigate banking risks, and maintain financial stability within the Iraqi banking sector.

RESEARCH OBJECTIVES

This study aims to achieve the following objectives:

1. Measure the Net Stable Funding Ratio (NSFR) in Iraqi private commercial banks.
2. Measure the banking investment ratio in Iraqi private commercial banks.
3. Evaluate the impact of applying the NSFR on banking investment in Iraqi private commercial banks.

RESEARCH HYPOTHESES

Given the financial imbalances frequently encountered by Iraqi private commercial banks, these institutions strive to manage the sources of funding for their financial assets. They aim to maintain a high liquidity level while achieving their investment objectives without compromising liquidity. Accordingly, the study proposes the following hypotheses:

1. There is a causal relationship between the Net Stable Funding Ratio and bank investment.
2. There is a bidirectional relationship between Net Stable Funding and bank investment.

DEFINITION OF NET STABLE FUNDING RATIO (NSFR)

The Net Stable Funding Ratio (NSFR) was first introduced by the Basel Committee on Banking Supervision (BCBS) in December 2009. It was incorporated into the Basel III framework in December 2010. In January 2014, the BCBS published a revised consultative document updating the 2010 draft, and a final version of the NSFR framework was issued on October 31, 2014. The BCBS intends to implement the NSFR, which is one of the key components of the Basel III reforms and a core indicator of bank liquidity, aiming to increase liquidity levels across banks in general (Van, 2021,p.274). NSFR is defined as the ability to measure a bank's capacity to meet its financial obligations to depositors and to avoid defaulting on its long-term liabilities. It reflects a bank's ability to survive in the market for a full year. This ratio must not fall below 100% (Hamad, 2019, p. 27; Ali, 2020, p. 7).

IMPORTANCE OF NET STABLE FUNDING RATIO (NSFR)

There is no doubt that the NSFR plays a vital role in developing the banking sector and enhancing the strength and resilience of the banking system. It is one of the fundamental requirements for banks to withstand financial shocks and crises, while also improving their overall liquidity position. The importance of NSFR, as emphasized by Francisco & Bill (2016, p. 8), Jeanne et al. (2014, p. 33), and La et al. (2017), can be summarized as follows:

1. The NSFR establishes a strong structural foundation for banks, aimed at promoting long-term stability.
2. It encourages banks to manage a new funding model by aligning long-term assets with long-term liabilities.
3. It ensures that banks maintain a portion of stable funding over an extended period.

COMPONENTS OF NET STABLE FUNDING RATIO (NSFR)

The NSFR is calculated as the ratio of Available Stable Funding (ASF) to Required Stable Funding (RSF). Banks must maintain a sufficient stock of stable funding such that:

Available Stable Funding (ASF)Required Stable Funding (RSF)≥100%\frac{\text{AvailableStableFunding (ASF)}}{\text{RequiredStableFunding(RSF)}}\geq100\%\text{Required Stable Funding (RSF)Available Stable Funding (AS

$F \geq 100\%$ This ratio must remain at or above 100% throughout an entire year (Michael, 2013, p. 4164). The components of the NSFR are as follows:

1. **Available Stable Funding (ASF)**
2. **Required Stable Funding (RSF).**

BANK INVESTMENT

Concept of Bank Investment: Bank investment is a highly important topic, both for the national economy and for the management of banks and other financial intermediaries. It is considered one of the most sensitive financial and economic tools. The effects of investment are not limited to the bank or the financial institution alone but can extend to the broader economy as well (Mohammed, 2021, p. 133).

According to *Gangadhar & Babu (2006)*, bank investment refers to the act of purchasing financial or real assets that generate income, undertaken by financial institutions or individuals in exchange for bearing the risk associated with the investment's future duration (*Gangadhar & Babu, 2023, p. 2*). Thus, bank investment is considered the ultimate measure of the economic success a bank achieves over time (*Khan & Raj, 2020, p. 308*).

Importance of Bank Investment: Undoubtedly, profit generation is the primary objective of any commercial bank, and this is achieved through successful bank investments. The importance of bank investment is demonstrated in the following ways (*Dong, 2021, p. 249; Rose & Hudgins, 2013, p. 323*):

1. Generating additional returns for the bank.
2. Supporting the bank's liquidity position.
3. Strengthening the bank's balance sheet.
4. Reducing banking risks.
5. Preserving the value of real assets.

Types of Bank Investments: Banks invest their financial resources across a wide range of sectors and investment areas to achieve profitability and expand their financial activities (*Hans, 2019, p. 88; Rahana et al., 2016, p. 97*). These types of bank investments include:

1. **Investment in Assets**
2. **Investment in Securities**
3. **Investment in Loans**
4. **Investment in Fixed Assets**
5. **Applied Section**
6. **Section One: Sample Banks of the Study**

This section presents a table of the commercial banks included in the research sample, as shown in **Table (1)** below:

No.	Bank Name	Year of Establishment
1	Bank of Baghdad	1991
2	Iraqi National Bank	1995
3	Iraqi Commercial Bank	1992
4	United Investment Bank	1994
5	Ashur International Bank	2005
6	Gulf Commercial Bank	1999
7	Middle East Bank	1993
8	Mosul Bank for Development and Investment	2001
9	North Bank	2004
10	Across Iraq Bank for Investment	2006

Source: Table prepared by the researcher based on the annual reports of the sampled banks.

Table (2): Study Variables

Variable Type	Variable Name	Variable Code	Variable Nature
Dependent Variables	Investment / Total Deposits	Y1	Dependent
	Investment / Total Assets	Y2	Dependent
Explanatory Variable	Net Stable Funding Ratio (NSFR)	X1	Independent
Control Variables	Fund Utilization	X2	Independent (Control)
	Liquidity	X3	Independent (Control)

Section Three: Granger Causality Test Between Study Variables Causal Relationship Between Net Stable Funding and Investment / Total Deposits

Table (3): Results of the Granger Causality Test Between Net Stable Funding and Investment / Total Deposits

Null Hypothesis	F-Statistic	Causality	Prob.
X1 does not Granger Cause Y1	5.78867	Exists	0.0137
Y1 does not Granger Cause X1	0.46857	Does Not Exist	0.6348
X2 does not Granger Cause Y1	7.20004	Exists	0.0064

Y1 does not Granger Cause X2	0.38523	Does Not Exist	0.6868
X3 does not Granger Cause Y1	2.84925	Exists	0.0504
Y1 does not Granger Cause X3	0.29880	Does Not Exist	0.7460

Source: Prepared by the researcher using EViews 10 output.

Table (4): Results of the Granger Causality Test Between Net Stable Funding and Investment / Total Assets

Null Hypothesis	F-Statistic	Causality	Prob.
X1 does not Granger Cause Y2	13.4501	Exists	0.0005
Y2 does not Granger Cause X1	1.19931	Does Not Exist	0.3287
X2 does not Granger Cause Y2	4.90273	Exists	0.0230
Y2 does not Granger Cause X2	0.00321	Does Not Exist	0.9968
X3 does not Granger Cause Y2	1.52554	Does Not Exist	0.2494
Y2 does not Granger Cause X3	0.02116	Does Not Exist	0.9791

Source: Table prepared by the researcher using EViews software.

Section Four: Correlation Coefficient Measurement Between the Studied Variables

Correlation Between Net Stable Funding and Investment on Total Deposits

Table (5): Correlation Between Net Stable Funding and Investment on Total Deposits

Covariance Analysis: Ordinary Sample Period:2017–2020 Number of Observations: 40

Correlation	Probability	X1 (Net Stable Funding)	X2 (Fund Utilization)	X3 (Cash to Total Deposits)
Y1 (Investment / Total Deposits)		-0.134244	-0.005080	0.420739
		0.4089	0.9752	0.0069

Source: Table prepared by the researcher using EViews software version 10.

The above table shows a statistically significant positive correlation between the explanatory variable X3 (Cash to Total Deposits) and the dependent variable Y1 (Investment / Total Deposits), as indicated by the correlation coefficient of 0.420. This relationship is statistically significant, given the p-value of 0.0069, which is less than the significance level of 0.05.

On the other hand, no statistically significant correlation exists between X1 (Net Stable Funding) and X2 (Fund Utilization) with Y1 (Investment / Total Deposits), as the p-values are 0.9752 and 0.4089 respectively, both exceeding the 0.05 threshold.

Correlation Between Net Stable Funding and Investment on Total Assets

Table(6):CorrelationBetweenNetStableFundingandInvestmentonTotalAssets

Covariance Analysis:Ordinary Sample Period:2017–2020 Number of Observations: 40

Correlation	Probability	X1 (Net Stable Funding)	X2 (Fund Utilization)	X3 (Liquidity)
Y2 (Investment / Total Assets)		0.045450	0.089886	0.148136
		0.7806	0.5812	0.3616

Source: Table prepared by the researcher using EViews software.

The above table shows a positive but statistically insignificant correlation between the dependent variable Y2 (Investment / Total Assets) and the explanatory variable X1 (Net Stable Funding), as the correlation coefficient is 0.045, with a p-value of 0.780, which is greater than the significance level of 0.05. Similarly, there is no statistically significant correlation between X2 (Fund Utilization) and X3 (Liquidity) with Y2 (Investment / Total Assets), given their p-values of 0.5812 and 0.3616, respectively, both exceeding 0.05.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

1. The study concluded the existence of a **bidirectional causal relationship** between Net Stable Funding and bank investment.
2. The study found a **significant impact** of Net Stable Funding on bank investment.
3. Banks that maintain an available Net Stable Funding are more reliable in terms of their banking investments.

RECOMMENDATIONS

1. Iraqi private commercial banks in the study sample should adopt the implementation of Basel Committee regulations as their strategic plan to achieve profitability.

2. The private commercial banks in the sample should reasonably increase their Net Stable Funding ratio by expanding the sources of stable funding within the bank.
3. These banks must maintain a certain level of Net Stable Funding that does not negatively affect their investment activities.

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