



Research Article

The Conflict between Liquidity and Profitability and its Impact on the Banking Finance, an Empirical Investigation from Sudan (2000-2018)

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Abstract: The paper aims to examine the conflicting relationship between liquidity and profitability and its impact on the ability of banks in Sudan to provide finance to economic activities during the period 2000-2018. Central Bank of Sudan annual reports data were collected and used. The liquid assets to total assets ratio (LA/TA) was used to indicate liquidity position of banks. Total finance to total deposits ratio (TF/TD) was used to indicate the provision of finance. Return on assets (ROA) was used to measure the bank's profitability as indicator of financial performance. Ordinary least squares method was used to determine the relations between the variables. The main findings revealed that, ratio of liquid assets to total assets positively affect the provision of banking finance, while return on assets negatively related. The study recommends that banks should diversify the sources of profitability and should not totally depend on demand deposits to provision the finance, because customers default might lead to reduce of liquidity causing deterioration of profitability and the financial performance of banks.

Keywords: Liquidity ; Profitability; Conflict; Banking Finance; Sudan.

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INTRODUCTION

Commercial banks as financial intermediation institutions between depositors and investors accept deposits and providing financing. The liquidity is the ability of a bank to pay its short term financial obligation for the continuous operation specially withdrawal cash from demand accounts. A bank is considered usually financially solid and low risky which has huge cash in its balance sheet. The liquidity is not only measured by the cash balance but also by all kind of assets which can be converted to cash within one year without losing their value. The profitability measures the economic success of the bank irrespective to cash flow. It is often observed that a bank is very profitable in its books but it does not have sufficient liquidity and cash equivalent to pay its daily transactions and due obligations. (Kassim, 2009). Too much attention on liquidity would tend to affect the profitability if banks are keeping much of cash reserves greater than that amount required. Bank will miss opportunities of providing the finance, lending and investment which is generating revenue. The sustainability of the Bank's funding grants depends on the balance between profitability and liquidity held.

Statement of the Problem:

Commercial banks are profit-seeking organizations and the major factor of their ability to create high profit it's depend on provision of finance to their customers but this action may lead to reduce the level of liquidity. The good position of liquidity requires to achieving protection of customer's deposits and to meet cash withdrawal. Therefore; liquidity and profitability two

powers are working in opposite directions with conflicting objectives. Banks are tries overtimes to solve this problem to achieve the sustainability of banking finance. The problem of the research can be presented in the following question: How the conflict between liquidity and profitability might affect the provision of banking finance in Sudan during the period 2000-2018?

Importance of the Research:

Banking system through the provision of finance plays a pivotal role in promoting economic growth and development. Most empirical research and studies are attempts to examine and determine the direction of the relation between liquidity and profitability of banks regionally. This paper seeks to contribute in highlighting this issue in Sudan and extended the analysis to include the impact on the provision of banking finance during the period (2000-2018).

Objectives of the Research:

The main objective of the study is to examine the impact of the conflict between liquidity and profitability on the ability of commercial banks in Sudan to provide finance to their customers during (2000-2018) in addition to achieve the following sub-objectives:

- To assess the liquidity position of commercial banks in Sudan (2000-2018).
- To evaluate the performance of commercial banks in Sudan by using the profitability measure.
- To determine which one of liquidity or profitability have significant influence on provision of banking finance.

The Research Hypotheses:

The Study Aims To Examine The Following Hypotheses:

- There is a significant relationship between liquidity and profitability of banks in Sudan.
- Does ability of banks to provision of banking finance in Sudan responses to changes in the liquidity and profitability?

METHODOLOGY AND DATA COLLECTION:

The study is based on secondary data collected from annual reports of the Central Bank of Sudan in addition to the previous studies in relation to liquidity and profitability. The study employed econometric techniques to examine empirically the direction of the relation between liquidity and profitability and its impact on the banking finance.

Literature Review:

There are a significant number of studies show contradicting views on the interrelation between liquidity and profitability of banks.

Eljelly, (2004) found the existence of a significant negative relationship between profitability and liquidity among listed trading companies in Sri Lanka.

Haron (2004) examined the impact of different factors on the profitability of Islamic banks. The study reveals positive relationship between profitability, and liquidity, capital structure, and money supply while an inverse relation between profitability and asset structure and market share.

Bello, (2005) illustrated that the banking system through the process of financial intermediation plays a pivotal role in promoting economic growth and development. Profitability does not translate to liquidity in all cases. A company may be profitable without necessarily being liquid.

Kosmidou *et al.*, (2006) found positive association between liquidity and bank profitability (ROA) for UK Banks.

Raheman and Nasr, (2007) opined that the dilemma in liquidity management is to achieve desired trade-off between liquidity and profitability, contrary to other findings.

Kumbirai and Webb, (2010) asserted that liquidity indicates the ability of the bank to meet its financial obligations in a timely and effective manner.

Previous studies conducted by Dietrich and Wazenried, (2011) for banks in Switzerland and Funacova and Poghosyam, (2011) for Russian banks have found negative relation between liquidity and bank profitability in terms of ROA. This implies that the determinants of banks optimum liquidity and profitability management are not conclusive and same across countries. Thus, the particular factors that influence the profitability of the commercial banks need to be identified on a country base.

Owolabi *et al.*, (2011) posited that the relationship between liquidity and profitability has remained a source of disagreement among experts, researchers, professional financial analysts and even managements of profit-oriented businesses. Therefore, views on the actual relative relationship and importance of each in business enterprises have continued to differ.

Alper and Anbar, (2011) studied of macroeconomic determinants of Turkey's bank during the years 2002-2010 and found that bank's size, liquidity and interest income have positive effect on the banks profitability, but credit risk and loans have a negative effect on the performance of banks.

Olagunju *et al.*, (2011) analyzed liquidity management and commercial banks, profitability in Nigeria and their findings show a significant relationship between liquidity and profitability. That means profitability in commercial banks is significantly influenced by liquidity and verse -versa.

Bhunia *et al.*,(2011) found out in their study that liquidity - profitability relationship is linked with the continuance of the appropriate intensity of working capital. This concept tries to strike a level of liquidity that offers a relaxed balance of liquidity and profitability, that is, the investment of the company in working capital must be sufficient. It may generally be assumed that there is a negative relationship between the two but in most cases this may not always be true.

Scholars such as Acharya and Naqvi, (2012); Drehmann and Nikolaou, (2013); King (2013); Hong *et al.*, (2014); Khan *et al.*, (2017); and; Abobakr, (2017); Raweh and Shihadeh (2017); and Rahma (2017) have divergent views and found that liquidity has significant effect on the bank -taking, liquidity creation as well as the performance.

Ajanthan (2013) asserted that profitability is a measure of the amount by which a company's revenues exceeds its relevant expenses. Profitability ratios are used to evaluate their management ability to create earnings from revenue-generating bases within the organization. A profit ratio indicates how much room a company has to withstand a downturn, fend off competition and make mistakes.

Andrew and Osuji, (2013) analyzed the efficacy of liquidity management and banking performance in Nigeria reveals that there is significant relationship between efficient liquidity management and banking performance and that efficient liquidity management enhances the soundness of bank.

Naser *et al.*, (2013) examined the effect of liquidity risk on the performance of commercial banks in banks and the research shows that the variables of bank is size, bank's assets, gross domestic product and inflation will cause to improve the performance of banks while credit risk and liquidity risk will cause to weaken the performance of bank.

Junaidu and Aminu, (2014) examined the impact of liquidity on the profitability of Nigerian banks. Findings show that there is no significant impact of liquidity on profitability among the listed banking firms in Nigeria.

Rehman, *et al.*, (2014) evaluated the profitability of listed petrochemical companies in Saudi Arabia during the period (2008-2012). The paper encompasses six variables, namely, creditors' velocity (CRSV), debtors' turnover ratio (DTR), inventory turnover ratio (ITR), and long-term-debt to equity ratio (LTDER), total assets turnover ratio (TATR) and net profit margin (NPM). Profitability as a dependent variable is exhibited by net profit margin (NPM) while the selected other ratios are expressed as independent variables. The study revealed that there is a significant relationship between the four selected ratios and net profit margin of petrochemical companies in Saudi Arabia.

DeYoung and Jang, (2016) identified that the Basel III standard is tantamount to the Barry ,(2011) analysis for bank liquidity that centers on three main areas: maintaining liquid assets to aid short-term financing runs; issuing stable deposits that may not run; and holding significant levels of equity financing to indicate long-term solvency and thus minimize the possibility of runs.

M. O. Yusuf *et al.*, (2019) investigated the optimum synergy between liquidity and profitability management of quoted banks in Nigeria. The result showed that there is a significant optimum synergy between liquidity and profitability management of banks in Nigeria. Also optimum liquidity and

profitability management is achieved when a balance is struck between the two performance indicators in such a way that the pursuit of one of them does not lead to a detrimental effect on the other.

The present study differs from previous studies in that it tests the impact of the relationship between liquidity and profitability on the ability of banks in Sudan to grant financing during 2000-2018.

Liquidity Position and Profitability of Commercial Banks in Sudan (2000-2018):

The ratio of liquid assets to total assets (LA/TA) is considered the best measure of liquidity. This ratio indicates liquidity risk or liquidity position; the decrease of liquid assets to

total assets ratio may expose banks to shortage of liquidity because in case of the decrease of liquid assets makes banks unable to fulfill withdrawal from banking accounts. Hence, it is negatively related to the profitability of the bank. As for Profitability of commercial banks, it is measured through various ratios. The famous measure is the return on assets (ROA).ROA ratio points out the ability of banks to create the profit and reflects the efficiently of utilization of the assets (Srairi, 2009). Also ROA an indicator of how profitable a company is relative to its total assets and it gives an idea as to how efficient management is at using its assets to generate earnings. Calculated by dividing a company's annual earnings by its total assets, ROA is displayed as a percentage.

Table (1) Liquidity Position and Profitability of Banks in Sudan (2000-2018)

Year	Liquidity Ratio (LA/TA) Standardized Ratio (30%-40%)	ROA
2000	17.0	3.0
2001	20.9	3.9
2002	18.6	4.0
2003	19.2	5.0
2004	18.3	5.3
2005	17.9	5.0
2006	17.1	2.1
2007	21.0	2.5
2008	20.9	3.0
2009	27.6	3.4
2010	22.5	3.9
2011	32.0	4.2
2012	41.5	4.4
2013	39.0	3.7
2014	39.1	4.0
2015	37.4	4.0
2016	35.1	4.7
2017	37.3	3.8
2018	52.0	4.7

Source: Central Bank of Sudan – Annual Reports (2000-2018)

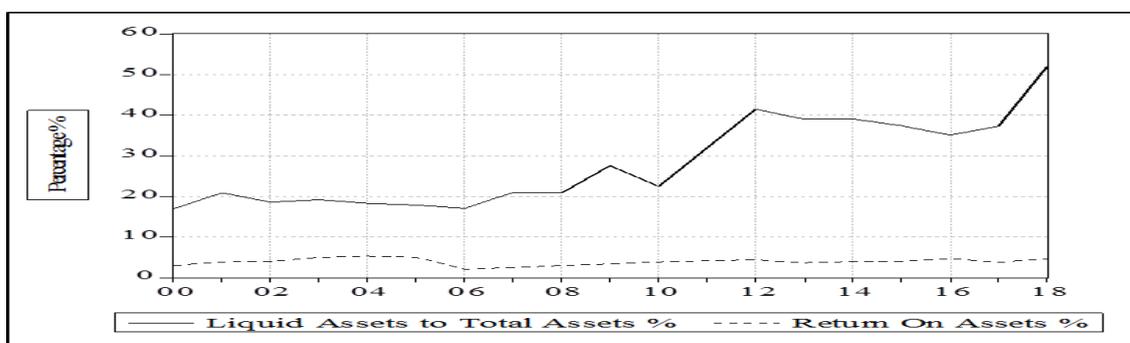


Figure (1) Liquidity Position and Profitability of Banks in Sudan (2000-2018)

Source: Central Bank of Sudan – Annual Reports (2000-2018)

In light of table (1) and figure (1) we can notice the following:

- Liquid assets to total assets ratio (LA/TA) during the period (2000-2018) ranged between 17%-52% compared to Standardized Ratio 30%-40%.
- As for the return on assets (ROA) during the period (2000-2018) ranged between 3% - 4.7% and it was increased from 3.8% in 2017 to 4.7% in the year 2018 indicating a rise in the return on stocks and hence improves the ability of the banks to invest their funds and capital efficiently.

Position of Provision of Banking Finance in Sudan (2000-2018):

Banking finance includes the finance extended by the operating banks in Sudan to the private sector, public enterprises

and state and local governments in addition to the capital contribution in local and foreign currencies. There are two ratios used to assessment the position of banking finance includes: total finance to total assets ratio and total finance to total deposits ratio. An increase in provision of finance to total deposit may expose banks to credit risk because in case of inability of customer to repay back. Hence, it is negatively related to the profitability of the bank (IFSB, 2005).There is another interpretation, provision of finance is one of the main sources of bank profitability. Therefore, if banks relies on their customer deposits to granting finance, it increases its profitability and thus improves performance, but may lead to the possibility of exposure to liquidity risk, therefore, the relationship between the granting of finance and profitability is positive.

Table (2) Position of Banking Finance in Sudan (2000-2018)

Year	Total Finance to Total Deposits Ratio	Total Finance to Total Assets Ratio
2000	40.2	22.0
2001	40.6	24.5
2002	44.1	26.2
2003	62.3	37.3
2004	67.5	41.8
2005	76.2	45.3
2006	90.5	48.1
2007	93.2	49.6
2008	90.6	48.8
2009	87.1	49.5
2010	81.9	49.1
2011	82.3	49.2
2012	76.4	45.5
2013	84.5	48.6
2014	82.9	48.0
2015	84.3	49.1
2016	85.2	51.0
2017	73.5	48.7
2018	54.8	37.4

Sources: Central Bank of Sudan – Annual Reports (2000-2018)

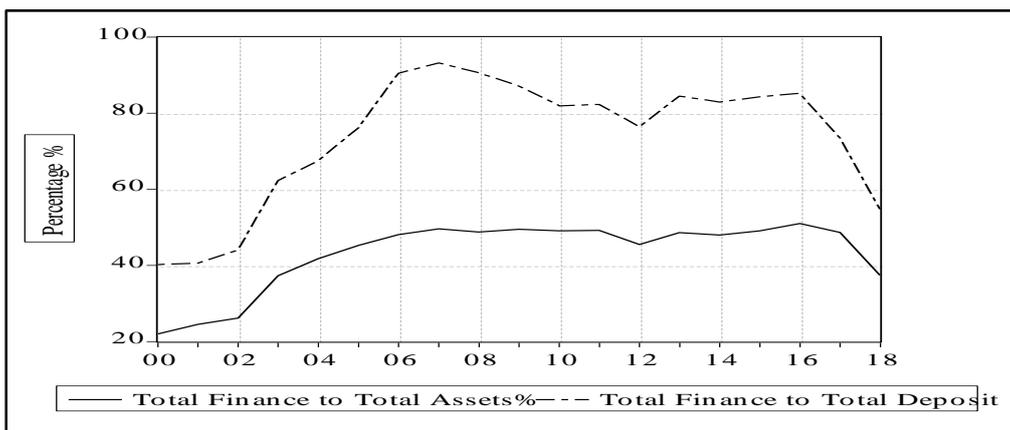


Figure (2) Position of Banking Finance in Sudan (2000-2018)

Sources: Central Bank of Sudan – Annual Reports (2000-2018)

Table (2) and figure (2) shows that:

- Total finance to total assets ratio during the period (2000-2018) ranged between 22%-49.2% and it decreased from 48.7% in 2017 to 37.4% in 2018 indicating un-optimal utilization of the available resources resulting from the increase in total deposits in the year 2018.
- Total finance to total deposits ratio during the period (2000-2018) ranged between 40.2%-90.5% and it declined from 73.5% in 2017 to 54.8% in 2018 which is a good indication, because if a bank relies on deposits to provision of finance might increases its profitability but may lead to the possibility of exposure to liquidity risk.

1. Methodology and the Empirical Analysis:

1.1 Model Specification:

To empirically examine the impact of the relationship between liquidity and profitability on the ability of commercial banks to provide finance to the sectors of economics, the following model will be used.

Provision of Banking Finance = f (Liquidity, Profitability) (1)

Equation (1) can be rewritten as follows:

Total Finance to Total Deposit Ratio = f (Liquid Assets to Total Assets Ratio, Return on Assets)..... (2)

Equation (2) can be rewritten as follows:

$$\left(\frac{TF}{TD}\right) = f \left(\left(\frac{LA}{TA}\right), (ROA) \right) \dots \dots \dots (3)$$

Where:

(TF/TD): Total Finance to Total Deposits:

This ratio indicates position of the provision of total banking finance as a percentage of total deposits where deposits are considered the main source of banking finance.

(LA/TA): Liquid Assets to Total Assets:

This ratio indicates liquidity of banks; the decrease of this ratio may expose banks to shortage of liquidity or liquidity risk because in case of the decrease of liquid assets makes banks unable to fulfill withdrawal from banking accounts. Hence, it is negatively related to the profitability of bank.

(ROA): Return on Assets:

Return on Assets or return on capital indicates the return on stocks and reflects ability of banks to use their funds and capital efficiently.

Equation (3) implies that the ability of bank to grant financing depends on the profitability achieved and on the level of the liquidity. As profitability increases, the bank increases funding grants but this expansion it will also lead to less liquidity to meet up with other customers demand and thus less profitability because of a slowdown in business or even bankruptcy. Also high liquidity might reduce the profitability of banks because it reflects the non-efficiently of utilization of assets and vice versa. This shows that liquidity and returns are so intertwined (Sinkey, 2002).

The model is specified in symbols as follows:

$$\left(\frac{TF}{TD}\right) = \beta_0 + \beta_1 \left(\frac{LA}{TA}\right) + \beta_2(ROA) + \mu_i \dots \dots \dots (4)$$

Where:

β_0 = Constant parameter or intercept.
 β_1 and β_2 = Coefficients of independent variables and μ_i = Error term.

1.2 Empirical Results:

Table (3) Reviews The Results Of The Estimated Parameters Using Least Squares Estimator.

Table (3) Summary of OLS Regression Results

Dependent Variable: TF/TD , Method: Least Squares				
Date: 10/25/19 Time: 21:42				
Sample: (2000-2018), Included observations: 19				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	88.96156	19.77195	4.499383	0.0004
LA/TA	0.412430	0.391060	1.054647	0.3073
ROA	-6.870942	4.855662	-1.415037	0.1762
R-squared	0.135579	Mean dependent var		73.58421
Adjusted R-squared	0.027526	S.D. dependent var		17.23644
S.E. of regression	16.99756	Akaike info criterion		8.647955
Sum squared resid	4622.670	Schwarz criterion		8.797077
Log likelihood	-79.15558	F-statistic		1.254747
Durbin-Watson stat	0.360660	Prob (F-statistic)		0.311748

Source: Own calculation

Discussion of the Results:

The study is intended to examine the impact of the conflict between liquidity and profitability on provision of finance in Sudan (2000-2018). Set of explanatory variables (LA/TA) and (ROA) have probability greater than (0.05). R-Squared is low; this means that the explanatory variables explained about 13% of total changes in ability of banks to granting finance. The total test of regression is not significant because, F-statistic have value of (1.254747) with probability (0.311748).

The coefficient of liquid assets to total assets (LA/TA) appearing with a positive sign (probability of 0.3073) indicates that an increase of liquid assets may lead to increase the ability of banks to granting finance.

The estimated parameter of return on assets (ROA) appeared with a negative sign and it has low influence (probability 0.7017) to the profitability and also to ability of banks to granting finance. This suggests that a one percent reduction in ROA would probably lead to deterioration of bank's ability to granting finance by (6.870942) percent. The result is a bank with higher ROA, exhibits a lower provision of banking finance.

Conclusions:

From The Last Discussion The Following Conclusions Can Be Drawn:

- The results reveal a robust negative relationship between (LA/TA) and bank's financial performance indicator (profitability) measured by ROA.
- ROA have a negative relation to the banking finance.
- (LA/TA) ratio a positive relation to the banking finance.
- During (2000-2018) bank's financial performance indicator (profitability) or ROA ranged between 3%-5%, generally it reflects weak performance of banks.
- Banks in Sudan have heavy rely on their customers deposit to providing the finance, which is equivalent to 40% - 90% during (2000-2018), but the problem comes from expansion provision of finance based on the demand deposits because in case of inability of borrowers or debtors to repayment the finance, liquidity risk take place and might negatively affect the profitability.

Recommendations:

- To avoid a decline in the ability of to provide finance, banks should not rely on their customers' deposits and they work to diversify the sources of profitability.
- Banks should always strike to maintain a balance between conflicting goals of liquidity and profitability.
- The bank's liquidity should not be too high or too low because high liquidity may lead to low profitability and bad utilization of funds and it reduces the ability of banks to provide finance.

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