LIQUIDITY RISK AND PROFITABILITY: AN ASSESSMENT OF NIGERIAN BANKS

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Abstract

The paper examines liquidity risk and profitability from the Nigerian banking sector perspective. Primary data were collected from a sample of 518 distributed among staff of banks, with a response rate of 76%. In addition to this, published financial statements of banks from 2006-2010 were used. Finding shows that there is a significant relationship between liquidity risk and profitability of both domestic and foreign banks in Nigeria. It was recommended thatthere is need to improve transparency of the financial system, which in turn would assist financial institutions to evaluate liquidity risk more effectively and to avoid problems associated with hazardous exposure.

Keywords: Liquidity risk, Profitability, Recapitalization, Domestic bank

Introduction

The efficiency of banks contribute to the productivity of the economy which affects overall economic growth. In general, efficient intermediation of funds from savers to borrowers enables the allocation of resources to most productive uses which facilitate growth. Financial intermediaries perform key financial functions in economies; provide a payment mechanism, match supply and demand in financial markets, deal with complex financial instruments and markets, provide markets transparency, perform risk transfer and risk management functions. Banks are the most important financial intermediaries in most economies and they provide a bundle of different services.

Liquidity is a bank's capacity to fund increase in assets and meet both expected and unexpected cash and collateral obligations at a reasonable cost and without incurring unacceptable losses (Padganeh and Sitraram, 2013). According to the definition of the Basel Committee on Banking Supervision (1997), liquidity risk arises from the inability of a bank to accommodate decreases in liabilities or to fund increases in assets. When a bank has inadequate liquidity, it cannot obtain sufficient funds, either by increasing liabilities or by converting assets promptly, at a reasonable cost, thereby affecting profitability.

Due to liquidity problem in Nigerian banks, many banks had difficulty in meeting their liabilities as they fall due for payment. This, sometimes, leads to depositors' loss of confidence in the banking sector and invariably results into panic withdrawal by the public. Consolidation created bigger banks with huge surge of capital availability. This caused growth in the loans given out by these banks. In this respect, the banks are faced with liquidity risk since loans are advanced from funds deposited by customers. However, according to Ogunleye (2003), in times of instability banks may choose to increase their cash holding to mitigate risks. Asedionlen (2004) opines that recapitalization may raise liquidity in short term but will not guarantee a conducive macroeconomic environment required to ensure high asset quality and good profitability.

In Nigeria over the past decade the banking sector had been plagued with inadequate liquidity. According to Soludo (2004), the Nigerian banking system today is fragile and marginal; the system faces enormous challenges which, if not addressed urgently, could snowball into a crisis in the near future. He identified the problems of the banks, especially those seen as feeble, persistent illiquidity, unprofitable operations and having a poor assets base. This led to the banking reform in 2005 when banks were mandated to increase their capital base from N2 billion to N25 billion. The Central Bank of Nigeria (CBN) believed this recapitalization would stabilize and solve the problem of illiquidity in the Nigerian banking sector. But, in less than 5 years the CBN injected more than N678 billion cash to aid and support the liquidity of the affected banks in spite of the fact that these banks are recording profits.

Against this background, this paper seeks to examine liquidity risk as a determinant of profitability in the Nigerian banking sector.

Literature review

Liquidity is the ability of a bank to fund increases in assets and meet obligations as they come due, without incurring unacceptable losses. Banks are major providers of liquidity in an economy. The field of research on the role of banks as liquidity providers started long time ago (Diamond and Dybvig, 1983). Kashypap, Rajan and Stein (2002) describe the links between banks' liquidity and depositors and borrowers through credit lines. These have made the changes in the industry sporadic and ubiquitous today.

The fundamental role of banks in the maturity transformation of short-term deposits into long-term loans makes banks inherently vulnerable to liquidity risk, both of an institution-specific nature and that which affects markets as a whole. Virtually every financial transaction or commitment has implications for a bank's liquidity (Dyson, 2008). Effective liquidity risk management helps to ensure a bank's ability to meet cash flow obligations, which are uncertain as they are affected by external events and other agents' behaviour. Liquidity risk management is of paramount importance because a liquidity shortfall at a single institution can have system-wide repercussions.

Bank management is responsible for the sound management of liquidity risk. The bank should establish a robust liquidity risk management framework that ensures it maintains sufficient liquidity, including a cushion of unencumbered, high quality liquid assets, to withstand a range of stress events, including those involving the loss or impairment of both unsecured and secured funding sources. The assessment of adequacy of both a bank's liquidity risk management framework and its liquidity position and should take prompt action if a bank is deficient in either area in order to protect depositors and to limit potential damage to the financial system.

Bank should establish a robust liquidity risk management framework that is well integrated into the bank-wide risk management process. A primary objective of the liquidity risk management framework should be to ensure, with a high degree of confidence, that the firm is in a position to both address its daily liquidity obligations and withstand a period of liquidity stress affecting both secured and unsecured funding, the source of which could be bank-specific or market-wide. In addition to maintaining sound liquidity risk governance and management practices, as discussed further below, a bank should hold an adequate liquidity cushion comprised of readily marketable assets to be in a position to survive such periods of liquidity stress.

A bank should demonstrate that its liquidity cushion is commensurate with the complexity of its on- and off-balance sheet activities, the liquidity of its assets and liabilities, the extent of its funding mismatches and the diversity of its business mix and funding strategies. Bank should use appropriately conservative assumptions about the marketability of assets and its access to funding, both secured and unsecured, during periods of stress. Moreover, a bank should not allow competitive pressures to compromise the integrity of its liquidity risk management, control functions, limit systems and liquidity cushion.

In the literature, bank profitability is typically measured by return on assets (ROA), return on equity (ROE), and/or net interest margins (NIM) and is usually expressed as a function of internal and external determinants. Internal determinants are factors that are mainly influenced by a bank's management decisions and policy objectives. Such profitability determinants are the level of liquidity, provisioning policy, capital adequacy, expenses management, and bank size. Generally for banks, ROA depends on the bank's policy decisions as well as uncontrollable factors relating to the economy and government regulations. Previous authors believe ROA is the best measure of bank profitability (Hassan and Bashir 2003).Brealey, Myers and Marcus (2004) affirm that manager often measures the performance of a firm by the ratio of net income to total assets, otherwise referred to as Return on Asset (ROA).Rivard and Thomas (1997) suggest that bank profitability is best measured by ROA in that ROA is not distorted by high equity multipliers and ROA represents a better measure of the ability of the firm to generate returns on its portfolio of assets.

Previous studies on liquidity as a factor that affects profitability of banks showed that in order to hedge against liquidity risk, banks often hold liquid assets to meet advice shocks. Hence, the higher the value of the ratio, the less liquidity the bank has, and the higher will be the profitability because liquid assets are usually associated with lower rates of return. Insufficient liquidity is one of the major reasons of bank failures. However, holding liquid assets has an opportunity cost of higher returns. Bourke (1989) finds a positive significant link between bank liquidity and profitability. However, in times of instability banks may chose to increase their cash holding to mitigate risk. Unlike Bourke (1989), Molyneux and Thorton (1992) come to a conclusion that there is a negative correlation between liquidity and profitability levels. Therefore, the relationship between liquidity and profitability cannot be predicted and this leads to the first hypothesis:

Hypothesis 1: There is no significant relationship between liquidity risk and profitability of domestic banks in Nigeria

In a research study conducted by Goldberg et al. (2000), it was observed that foreign-owned banks, on the whole, tended to be "healthier" than their domestic counterparts. Comparing the 1995-2000 performance of foreign and domestic banks in select Latin American countries, they revealed that while foreign banks differed little from their domestic counterparts in overall financial condition, they showed more robust loan growth, a more aggressive response to asset quality deterioration, and a greater ability to absorb losses- characteristics that jointly portray that they are by far more profitable than domestic banks. Jeon, Miller, and Natke (2004) state that foreign banks are more likely to earn higher returns on assets and equity than domestic banks. Therefore this study will examine the relationship between domestic and foreign banks in Nigeria in relation to their liquidity and profitability. This leads to the second hypothesis:

Hypothesis 2: There is no significant relationship between liquidity risk and profitability of foreign banks in Nigeria

Methodology

This study used the survey design in line with cross - sectional research design. From a total of 518 copies of the questionnaire distributed to bank staff in the Nigerian banking sector, 393 were returned, out of which 125 were either not filled at all or not properly filled thus, producing a response rate of 76%. A response rate considered sufficiently large for statistical reliability and generalizability (Abbas, Hamid and Joher 2003).

The instrument consisted of two parts. Sector A is designed to identify the respondents' information on demographic variables. Sector B consists of items designed to find out about the effect of liquidity risk on the profitability of deposit- taking banks in Nigeria. A five point Likert-scale was used in all questions, in order to accurately measure the change between two time points from very low to very high. The ratings scale is such that for questions in which responses indicated very low we scored 1 and the very high scored 5. The instrument was validated in its face and content. To measure the content validity of the instrument, pilot study was carried out.

Secondary data were also collected from published financial statements of all the banks under study. Based on this, published financial statements of the banks under study for the period 2006- 2010 were used.

Analysis of data and result

Hypotheses Testing

Hypothesis 1: There is no significant relationship between banks liquidity risk and profitability of domestic banks in Nigeria.

Table 1 Testing Liquidity Risk for Domestic Banks in Nigeria

Construct Association	A Level	Beta	p-value	Significant Yes/no	Hypothesis
Liquidity risk and profitability of domestic banks in Nigeria.	0.05	0.225	0.001	Yes	Rejected

Source: Computed from field work

From Table 1, the p-value is 0.001. The result implies that we reject null hypothesis at α = 0.05 level of significance and accept the alternative hypothesis. Therefore, it can be concluded that there is a significant relationship between banks liquidity risk and profitability of domestic banks in Nigeria.

Hypothesis 2: There is no significant relationship between banks liquidity risk and profitability of foreign banks in Nigeria.

Table 2 Testing Liquidity Risk for Foreign Banks in Nigeria

Construct Association	α Level	Beta	p-value	Significant Yes/no	Hypothesis
Liquidity risk and profitability of foreign banks in Nigeria.	0.05	0.240	0.008	Yes	Rejected

Source: Computed from field work

Table 2 shows the p-value of 0.008. The result implies that we reject null hypothesis at α = 0.05 level of significance and accept the alternative hypothesis. Hence, we shall accept the alternative hypothesis which states that there is significant relationship between banks liquidity risk and profitability of foreign banks in Nigeria

Table 3 shows the result of the secondary data analysis testing the hypothesis that there is no significant relationship between banks liquidity risk and profitability of domestic banks in Nigeria.

Table 3 Testing Liquidity Risk for Domestic Banks in Nigeria Using Secondary Data

VARIABLE	POOLED		FIXED EFFECTS		RANDOM EFFECTS	
	Coefficient	**t-statistic**	**Coefficient**		**Coefficient**	**t-statistic**
Constant	10.16860 (0.0000)	4.42E+13***	10.16860 (0.0000)	Constant	10.16860 (0.0000)	4.42E+13***
Liquidity risk	0.262420 (0.0000)	1.02E+14***	0.541069 (0.0000)	Liquidity risk	0.262420 (0.0000)	1.02E+14***
Adj. R-Squared	0.420711		0.440721		0.420711	
Durbin-Watson stat	2.479860		2.488846		2.479860	

Source: Computed from field work

Table 3 reveals a p- value 0.000 at $\alpha = 0.05$ level of significance. . Hence, we shall not reject the alternative hypothesis which states that there is significant relationship between banks liquidity risk and profitability of domestic banks in Nigeria.

Discussion

From the estimation result, liquidity risk does have a positive and statistically significant effect on bank profitability of domestic banks in Nigeria. The yearly growth of total loan to deposit does affect bank profitability. There is empirical evidence that banks in Nigeria are able to convert an increasing amount of deposit into significantly liquid asset. However, insufficient liquidity is one of the major reasons of bank failures. Holding liquid assets has an opportunity cost of higher returns. Bourke (1989) finds a positive significant link between bank liquidity and profitability. But, in times of instability banks may choose to increase their cash holding to mitigate risk. But, Molyneux and Thorton (1992) come to a conclusion that there is a negative correlation between liquidity and profitability levels.

Looking at liquidity risk of foreign banks in Nigeria, the researcher finds out that the result is similar to the result obtained for domestic banks in Nigeria. Liquidity risk has positive and statistically significant impact on the profitability on foreign banks. Studies like Sufian and Habibullah (2009) have investigated the determinants of profitability of the Chinese banking sector during the post reform of 2000-2005. They found out that liquidity, credit risk and capitalization have positive impacts on the state owned commercial banks profitability. This is consistent with the findings of this study that shows that liquidity has significant impact on profitability of banks in Nigeria.

Uremadu (2012) discovers that liquidity ratio (LR) is the most important factor affecting bank profits in Nigeria and there is a positive association with banking system profits. But, if liquidity exists and results are showing otherwise, then, the monetary authorities have to critically ascertain what is responsible for this "false" excess liquidity existing perennially in the financial system. Also, banks have failed to mobilize enough savings that can be used for loanable funds to raise capital formation and or gross domestic investment (GDI). Adequate accumulation of domestic savings will enable banks to lend to genuine investors who will invest to create wealth to lead growth in the economy (Uremadu, 2000). This is consistent with the findings of this research. From the analysis done there appeared to be excess liquidity in the banking system and bank profits were rising as shown in their annual reports. But as from 2008, the annual reports of banks revealed that some of these banks were faced with challenge especially in the area of capital and liquidity. This suggests that there may be the likelihood that banks were making their profit from non-purely traditional banking service via some unethical means.

In Nigeria, inter-bank liquidity tightened as an aftermath of the resolution of the banking system crisis that engulfed the Nigerian banking system in 2008. The special audit of the Central Bank of Nigeria (CBN) and the Nigeria Deposit Insurance Corporation (NDIC) revealed the rot in the system and exposed the distressed banks failed health, majorly due to bad corporate governance. Inter-bank liquidity tightened and the CBN put in place an Inter-bank Guarantee Scheme in order to avert the contagious effect of perceived liquidity distress amongst some banks in the Nigerian banking system. The guarantee helped to smoothen a gradual resolution of the ensuing crisis and the CBN has moved the expiry date for the inter-bank guarantee from September 30, 2011 to December 31, 2011.

According to the findings of this study, the Nigerian banking sector is highly competitive and this is consistent with the outcome of Allen and Gale (2004) study. Banks now have huge task of increasing their deposit but this comes at a cost which may invariably reduce the profit that is expected to be generated. This, in a way, has increased innovation in the banking sector as many banks now come up with new product/service or modify the existing ones in order to meet the changing need of their customers. The ultimate aim of the banks is to increase their revenues and market share which will eventually reflect positively in their profitability.

Finally, the tremor in the industry resulting in severe liquidity problems still remains a shocking news to all stakeholders in the economy. It is not surprising that the CBN as a Lender of Last Resort (LOLR) injected more than N678 billion cash to aid and support the liquidity of the affected banks in spite of the fact that these banks are recording profits. Liquidity is crucial to banks because they are specialized form of business that engages in the art of borrowing short and lending long and liquidity is a germane apparatus that keeps the doors of a bank open at all times in the short run (Nwankwo, 2004; Aspaches, 2005 and Dyson, 2008)

Recommendations

The paper has investigated liquidity challenges and bank profitability in the Nigerian banking sector which is indeed worrisome. Based on this, the study recommends that there is need to improve transparency of the financial system, which in turn would assist financial institutions to evaluate liquidity risk more effectively and to avoid problems associated with hazardous exposure. Also, in order to address failures of corporate governance in the industry, the CBN should intensify efforts in establishing a specialist function focusing on governance issues to ensure governance best practices are embedded in the Nigerian banking sector. Finally, to ensure that the gains of the banking reforms processes are sustained, the CBN should take more decisive measures aimed at tightening the risk management framework of the Nigerian banking sector as this will have a positive effect on the their profitability.

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