

An Assessment of Factors Affecting Banks' Risk Exposure in North Central Nigeria

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Abstract

The recent ethics of bank management have highlighted the need to balance between liquidity, asset, liability, capital adequacy, credit and interest rates risks, in order to mitigate against their loss in earnings. Consequently, the factors that may affect these risks are significant indicators to invent appropriate strategies for better bank management. It is therefore the rationale of this study to identify the factors that add to the risks that are constantly faced by commercial banks in North Central Zone of Nigeria. The factor analysis conducted indicated that liquidity and interest, domestic market, international market, business operation and credit were the factors affecting banks' risk exposure. For this reason, banks in the zone have to critically consider these factors in formulating an effective risk management strategy that can effectively curtail any possibility of loss in income that may ultimately led to bank's collapse.

Keywords: Bank risk, Market risk, Factor analysis, North Central Zone.

1. Introduction

In recent time, the global banking industry has undergone significant changed from been a financial intermediation between depositors and borrowers, to a "one-stop" centre for a range of financial services like insurance, investments and mutual funds. The improvement of information and communication technology (ICT) worldwide is responsible for the rapid advancement of banking services, in particular, online banking. The advance in ICT has not only provided huge banking opportunities formerly beyond reach, but also heightens the rivalry and attendant risks faced by banks in the financial system.

It must be noted that the banks' primary business of lending and investment are generally unsafe business. Banks are daily exposed to uncertainty and instability of the financial market such as interest rate fluctuations, exchange rate variation and economic volatility which could all lead to collapse, insolvency and financial catastrophe. For this reason, proper appreciative on the factors that amount to banks' risks exposure will alleviate and curtail banks' loss in earnings and capital due to risks and financial crisis.

Moreover, the intensified global competition and the liberalization of banking rules and regulations have also changed the modern banking system by providing greater opportunities for banks' risk diversification. Consequently, the purpose of this study to find out the factors that will affect the banks' risks taking in the industry. The recognition of these factors would be of assistance in constructing valuable risk management strategies in the banks and to minimize a loss in income. Besides, an understanding on the relationship of risk involved in the banking industry will also aid banks to formulate suitable strategy that will rise optimistic and reduce pessimistic shock of linked risks.

The subsequently section of this paper provides some past studies with regards to elements of risk and risk management in the banking industry, to be followed by the evaluation procedure used, results and discussions. The paper ends by providing some concluding remarks.

2. Review of Literature

Mishkin, 2007, stated the fundamental need for liquidity, asset, liability, capital adequacy, credit and interest rates risks management are challenging now more than before. These values of bank management are vital to preserve a healthy and profitable banking system. For example, the banks' liquidity management involves acquiring sufficient liquid asset to meet the bank's obligation to depositors. In the process of doing so, banks are exposed to liquidity risk where the more liquidity is generated, the larger are the likelihood and severity of losses associated with having to dispose of illiquid assets to meet up the liquidity burden of depositor (Diamond 1999; Allen and Jagtiani, 1996).

Nevertheless, above and beyond depositors, Gatev (2006) discovered that banks that make commitments to lend are exposed to the risk of unpredicted liquidity demands from their borrowers. The liquidity insurance role of banks, on the other hand, exposes them to the risk that they will have inadequate cash to meet up random demands from their depositors and borrowers (Gatev, 2006). Whereas interest rates risk is a major concern for

banks owing to the nominal nature of their assets and the asset-liability maturity mismatch (Hasan and Sarkar, 2002), some researchers have emphasized that higher interest rates had affirmative impact on banks (Hanweck and Ryu, 2004; Hyde, 2007).

We are also aware that credit risk is one of the oldest and most critical forms of risk faced by banks as financial intermediaries (Broll, et al., 2002). Commercial banks are mainly prone to make a loss due to credit risk (Bo, et al., 2005). In general, it has been observed that the bigger the credit risk, the higher the credit premiums to be charged by banks, leading to an improvement in the net interest margin (Hanweck and Ryu, 2004). Even so, the increased prominence of trading activities at banks have highlighted the banks' exposure to market risk, the risk of loss from adverse movement in financial market rates and prices. A bank's market risk exposure is determined by both the precariousness of underlying risk factors and the sensitivity of the bank's portfolio to movements in those risk factors (Hendricks and Hirtle, 1997).

What's more, operational risk does not mean only failures in the bank's operations, but also the causes of the failures, such as terrorist attacks, executive failures, competitive actions and natural disasters (King, 1998). Moreover, human or technological errors, lack of control to prevent unlawful or unsuitable transactions being made, fraud and faulty reporting may lead to additional losses caused by internal process failures, people and operating system (Medova, 2001). Thus, given the array of views with respects to factors affecting banks' risk taking, this study aims to contribute to the existing literature by providing some facts on the factors that contributes to risk taking by Nigeria banks.

3. Limitation of the Study

The study was limited to data collected from bank's officers from three (3) states only namely: Kogi, Kwara and Minna respectively and as well as a result financial constraints. There is therefore the need to conduct a comprehensive nationwide survey in order to have a broader, more reliable and robust data base for further analysis and confirmation of the current study outcome.

4. Methodology

A survey was conducted using structured questionnaire to seek the opinions of commercial banks' officers on the banks' risk sensitivity in the three States under consideration namely; Kogi, Kwara and Niger. A total of two hundred and ten (210) questionnaires were circulated to bank officers of various Banks at random selected bank branches located within the three States metropolis during the quarterly Business Expectations Survey (BES). Bank officers of the randomly selected commercial bank branches were required to answer and return the questionnaires within one week. The survey was done over a period of four months i.e. from June to August, 2012. Additionally, this study appraises the factors influencing banks' risk using the Likert-type scale that ranges from 1 to 5 with the following equivalences, ``1": ``strongly disagree"; ``2": ``disagree"; ``3": ``undecided"; ``4": ``agree"; and ``5": ``strongly agree".

After eliminating the incomplete questionnaires, two hundred and one (201) responses were used for analysis. In this study, the Cronbach's alpha reliability test was conducted to ensure that the measurement used was free of random and unstable error. Also, the factor analysis was also applied to reduce the number of inter-correlated variables with overlapping characteristics by using relationship matrices.

5. Results and Discussion

In order to ensure the reliability of every statistical test, the Cronbach's alpha is used to evaluate reliability of the data collected. The Cronbach's alpha value calculated for this survey using SPSS package was 0.864, which suggest a high consistency and good in-house regularity (Nunnally and Berstein, 1994). Subsequently, the respondents' profile is analyzed. The gender of the respondents is fairly equally distributed, with 56% of respondents being female relative to 44% men. Most of the respondents were aged between 20-29 years old, and earning a monthly income of between N20, 000.00 - N49, 999.00 compared to the age group of 30 – 39 years old that earnings a monthly of income between N50, 000.00 – 79,999.00. Details of the individuality of the respondents are shown in Table 1. As depicted in Table 2, the KMO value obtained for this survey is 0.672, signifying sufficient sampling done, with a long-established Bartlett's test.

Besides, the main factor analysis and the varimax (orthogonal) alternation exposed five factors solution of 58.6% cumulative rotated sums of squared weighting. Fundamentals, loadings with more than 50% swiveled component matrix are accepted, while those with less than 50% loadings are discarded. The output of the principal component analysis and varimax rotation produced suggests that liquidity and interest (14.27% revolving sum of

squared loadings), domestic market (11.40% rotation sum of squared loadings), global market (9.12% rotation sum of squared loadings), business operation (10.10% rotation sum of squared loadings) and credit (8.1% rotation sum of squared loadings) are the factors affecting banks' risk exposure.

To begin with, the liquidity and interest rate factor are associated with the banks' ability to manage its level of liquidity, capital adequacy, interest rates fluctuations, and capital controls. It is important for banks to properly manage its liquidity level in the event of short fall in reserves, due to an increase in required reserve or withdrawals from depositors. Even though higher bank capital means lower return on equity, the amount of capital to be held by banks depends largely on the market condition, such as interest rates fluctuations and capital controls.

Likewise, domestic market is the next factor that will affect banks' risk exposure. Inexperienced credit assessment officers, ineffective credit control and poor administration of credit documentation are some of the internal elements that will affect banks' risk exposure. Furthermore, changes in the market condition (such as the constant hike in fuel prices which results in increase in cost of livelihood), as well as central bank's of Nigeria monetary intervention of the required reserve ratio or overnight policy rate (OPR) will also affect the banks' ability to collect deposit and provide credit in the domestic market.

On the other hand, development in the global investment and financing opportunities, or threats, such as the recent investment glitch in the asset-backed securities of sub-prime loans that led to global financial meltdown and the instability of foreign exchange market are some of the other elements that are likely to affect the banks' exposure to the international market's risk.

Furthermore, difficulties in the operating system, political interference, social unrest, insecurity and natural disasters are some of the unforeseen conditions that will hamper banks' daily operation. In spite of that, economic crisis and recession will also have an adverse effect on the ability of borrowers to service their loans, when condition persisted, will eventually cause non-performing and default of loans. Hence, credit risk is to a great extent affected by adverse economic condition and result in loans default. Each element's spin component matrix stacking is presented in Table 3.

Moreover, the Spearman correlation scrutiny is further used to confirm if there exist any significant relationships between factors. The result of the analysis showed that there is insignificant relationship between all factors. Details of the association between factors are accessible in Table 4 below.

6. Conclusion and Implications

In conclusion therefore, this study looks critically at the elements that add to the risks that commercial banks in Nigeria countenance in their day by day business of financial intermediation. Demasi (2007) and Fatemi and Fooladi (2006) discovered that credit and market risk are the main causes contributing to risk exposure in the banking industry in Nigeria, commercial banks were subjected to a number of other factors. The five factors identified as the main factors that contribute to banks' risk exposure in the Nigeria banking development are liquidity and interest rate factor, domestic market factor, international market factor, business operation and credit factor.

The banks' ability to deal with its level of liquidity and capital adequacy, appropriation of surplus reserves due to interest rates fluctuations, and the impact of governments capital controls are essential aspects to commercial banking business in Nigeria. What's more, in support to Gatev and Strahan's (2005) results, the availability of liquidity within banks is also found to be directly affected by the domestic and international market. In that case, setback in the banking system due to technological glitches, political turmoil, and natural disasters are also found to be significantly contributing to banks' risk taking business. Hence, banks have to take due consideration of all of these elements of risk to design an effective bank management strategy and to minimize losses in earnings.

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Table 1: Characteristics of Respondents'

| Gender | Frequency | Percent |
|-------------------|-----------|---------|
| Male | 88 | 44.0 |
| Female | 112 | 56.0 |
| Total | 200 | 100.0 |
| Age | Frequency | Percent |
| Under 20 | 8 | 4.0 |
| 20 - 29 | 152 | 76.0 |
| 30 - 39 | 27 | 13.5 |
| 40 - 49 | 9 | 4.5 |
| Over 50 | 4 | 2.0 |
| Total | 200 | 100.0 |
| Educational_Level | Frequency | Percent |
| Secondary School | 11 | 5.5 |
| Diploma | 17 | 8.5 |
| Degree | 153 | 76.5 |
| Master | 16 | 8.0 |
| Phd | 3 | 1.5 |
| Total | 200 | 100.0 |
| Monthly_Income | Frequency | Percent |
| >20000 | 21 | 10.5 |
| 20000 - 49999 | 17 | 8.5 |
| 50000 - 79999 | 146 | 73.0 |
| 80000 and Above | 16 | 8.0 |
| Total | 200 | 100.0 |

Source: 2013 author's field Survey

Table 2: KMO and Bartlett's Test

| KMO and Bartlett's Test | | |
|--|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .672 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 531.495 |
| | df | 6 |
| | Sig. | .000 |

Source: Author's Analysis

Table 3: Factors influencing Banks' Risk in Nigeria.

| Factors | Rotated Component Matrix Loading (%) |
|--|--------------------------------------|
| Liquidity and Interest Rate | |
| 1. Lack of ability to liquidate quickly. | 58.2 |
| 2. Capital insufficiency. | 65.1 |
| 3. Interest rates fluctuations | 52.8 |
| 4. Capital controls | 61.4 |
| Domestic Market | |
| 1. Mismanagement of loans | 50.5 |
| 2. Adverse changes in the market condition | 73.7 |
| 3. Credit control | 84.9 |
| 4. Policy intervention (interest rates intervention) | 54.6 |
| International Market | |
| 1. International investment and financing | 77.8 |
| 2. Foreign exchange | 86.3 |
| Business Operation | |
| 1. Hardware and software malfunction | 91.7 |
| 2. Natural disaster (war, earth quakes) | 68.2 |
| 3. Political instability | 70.4 |
| Credit | |
| 1. Economic crisis and recession | 57.5 |
| 2. Default | 61.6 |

Source: Author's Calculation

Table 4: Factors of Correlation

| Correlation coefficient of factor | Liquidity and interest rate | Domestic Market | International Market | Business Operation | Credit |
|-----------------------------------|-----------------------------|-----------------|----------------------|--------------------|--------|
| Liquidity and interest rate | 1 | | | | |
| Domestic Market | -0.018 | 1 | | | |
| International Market | 0.057 | 0.023 | 1 | | |
| Business Operation | 0.034 | 0.032 | 0.074 | 1 | |
| Credit | -0.008 | -0.009 | 0.043 | 0.054 | 1 |

Source: Author's Calculation

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