

## Effects of Total Short Term Debts to Total Assets on Net Operating Income of Deposit Money Banks in Nigeria

**Felicia Anyanwu (PhD)**

Department of Banking and Finance  
Federal Polytechnic  
Nekede, Owerri

**Jummai V. Madume (PhD) & Samuel Dibiah**

Department of Banking and Finance  
Captain Elechi Amadi Polytechnic  
Rumuola, Port Harcourt  
samueldibiah@yahoo.com

### **Abstract**

*The aim of this paper is to investigate the effects of Total Short Term Debts to Total Assets on Net Operating Income of Deposit Money Banks in Nigeria using the pooled Ordinary Least Square(OLS) technique. We used a balanced panel data, consisting of seven deposit money banks for ten quarters giving us seventy observations from 2015:Q1 to 2017:Q2 from the Securities and Exchange Commission. The results reveal that a positive relationship exist between net operating income and short term debts of deposit money banks for the period under review implying that an increase in the ratio of short-term debt to total asset would increase operating income. This implies further that continuous accumulation of debts as option to finance the firm will reduce average Returns on Assets drastically. The study therefore concludes that Deposit money banks should fund their operations largely from other external source of finance such as bond markets to ensure diversification instead of relying heavily on the short term deposits of customers and recommends that deposit money banks should strive to maintain a healthy debt/asset ratio so as to stay liquid to enable them meet up with their short term obligations.*

### **1.0 Introduction**

The motive of every profit making organization is performance and to maximize shareholders wealth. Banks operate in a multi-faceted environment that can affect the operational efficiency and the performance of the industry. Performance is an indicator of sound banking system that can stand the operating environment. It is important to the banking public as well as the shareholders, the government and the customers. Bank performance can be seen as an input-output relationship. It measures the effectiveness and the efficiency of management in achieving returns on investor's fund (Aburime, 2010). It is a qualitative measure of return on investment, return on assets, return on capital employed, earnings per share, and profit after tax and interest income (Ngerebo & Lucky, 2016). Bank performance can be examined at the micro and the macro levels. At the micro level, bank performance is a function of management capacity, number of bank branches, assets composition, financial structure; while at the macro level bank performance is a critical function of monetary and the macroeconomic factors such as the regulatory instruments, inflation, economic growth, real income and interest rates (Nnanna, 2006).

The bank's financial structure directly affects its financial risk which has direct effect on the performance levels. The more fixed-cost financing, debt including financial leases and

preferred stock, a business has in its capital structure, the greater its financial risk. Since the level of this risk and the associated level of returns are key inputs to the valuation process, the bank must estimate the potential impact of alternative financial structures on these factors and ultimately on value in order to select the best financial structure. The greater the bank's operating leverage-the use of fixed operating cost- the higher its business risk. Since the company's cost of capital is seen as a function of its financial structure, choice of optimal financial structure or adequate and appropriate financing and investment reduce company's cost of capital and increase its market value (Modarres & Abdoallahzadeh, 2008) and thus will increase shareholders wealth.

## **2.0 Literature Review**

### **2.1 Conceptual Review**

Short Term Debts to Total Assets is the short term debt obligation of deposit money banks to total assets. The analysis of debt of financial institutions shows that short term debts are usually greater than long term debt. Short term debt obligations are liabilities that falls within one year and this characterizes the debt structure of deposit money banks. This measurement was censored in Awungo-Vitor and Badu (2012), Saeed, Gull and Rasheed (2013), Zafar, Zeeshan and Ahmed (2016) and Sharma and Verma (2016).

Net Operating Income is the total earnings from banking operation less operating expenses and other charges excluding corporate tax. A positive net operating income is an indication that revenue exceeds operating expenses while a negative net operating income is evidence that operating expenses are greater than total revenue. Adesina, Nwidobie and Adesina (2015), Shiferaw (2013), and Samuel (2016), adopted this variable.

### **2.2 Theoretical Framework**

The pecking order theory is the theoretical framework for this study. Pecking order theory of financial structure is one of the most celebrated theories of financial structure and performance nexus and many empirical studies have laid credence to this theory. The theory was documented to have been introduced by Donaldson (1961). The theory states that firm's financial structure has negative effect on its performance thus internal financing via equity and retained earnings is most preferable by firms. From the theory internal financing should be the first option before thinking about debt then followed by external equity. Following the pecking order theory, a profitable firm would rely less on debt as a source of financing business operation as funds would be available through equity/retained earnings. He argues that the more profitable the firms become, the lower the tendency to borrow because they would have sufficient internal finance to undertake their investment projects. According to the theory, where internal finance is insufficient, then external financing through borrowing from bank or corporate bond would be the best option, and where internal financing and bank borrowing/corporate bond become inadequate, then the last resort should to issue new equity.

### **2.3 Empirical Review**

Adesina, Nwidobie and Adesina (2015) determined the impact of post consolidation financial structure on the financial performance of Nigeria quoted banks using net operating income as dependent variable and two financial structure variables (equity and debt) as independent variables. The study adopted Ordinary least square regression analysis. The result show that financial structure has a significant positive relationship with the financial performance of Nigeria quoted banks. Akhtar, Baro, Baro, Zia and Jameel (2016) studied the effect of financial structure on profitability, liquidity, tangibility, interest rate and growth rate to measure performance of banking sector of Pakistan between 2005 and 2015. The research work used pooled analysis to summarize the data for correlation and regression. The result

showed that there are positive significant relationships between profitability, tangibility, liquidity, interest rate, and growth rate and financial structure.

### 3.0 Methodology

#### 3.1 Data

To examine the relationship between net operating income and the ratio of short-term debt of deposit money banks in Nigeria, we use panel data, consisting of six deposit money banks for six years from 2011 to 2016. The banks include Access (AB), Diamond (DB), First Bank (FBN), Guarantee Trust (GTB), United Bank for Africa (UBA) and Zenith (ZIB). The banks are selected based on data availability. The source of data collection is annual reports and accounts of the selected banks downloaded from their official websites. While short-term debt is expressed as a ratio of total asset, operating income is converted into logarithm to smoothen the observations and reduce the negative effects of possible outliers. All analyses are done using Microsoft Excel 2016 and EViews 9.5 student version.

#### 3.2 Method of Data Analysis

We use the pooled OLS technique to examine the relationship between short-term debts to total assets ratio and operating income. This technique is particularly used because we believe that since deposit money banks operate in the same industry and face the same regulatory environment, they are to a large extent homogenous in terms of firm-specific factors. Thus, any heterogeneity in the panel data, arising from cross-sectional (banks) differences that may be latent, will not significantly affect the main relationship being studied.

#### 3.3 Model Specification

The model for this study is stated functionally as:

$$LN\_OI = f(CLTA) \quad (1)$$

We can rewrite (1) econometrically as:

$$LN\_OI_{it} = \alpha + \beta CLTA_{it} + \varepsilon_t \quad (2)$$

where;  $LN\_OI_{it}$  = natural logarithm of operating income for  $i$  cross-sectional unit at time  $t$ ,  $CLTA_{it}$  = the ratio of current liability or short-term debts (CL) to total assets (TA),  $\alpha$  = invariant constant term (i.e. homogeneity term),  $\beta$  = slope coefficient that does not vary cross-sectionally and over time,  $\varepsilon_t$  = white noise error term. Since the pooled model is homogenous and the error term is a classical white noise, OLS estimators are unbiased and consistent.

### 4.0 Data Analysis

#### 4.1 Descriptive Statistics

Table 4.1 shows the statistical description of the data for operating income (OI) and current liability to total asset ratio (CLTA). From Table 4.1 indicates that the average values of banks' operating income and the ratio of short-term debt to total asset over the study period are 4.45E+08 ( $\sigma = 9.76E + 08$ ) and 76.05% ( $\sigma = 5.308077$ ) respectively, both with high variability. The Jarque-Bera normality test shows that the distribution of operating income deviates significantly from normality ( $p$ -value = 0.0000) while CLTA is normally distributed ( $p$ -value = 0.3985). The non-normality of operating income is due to positive skewness and large excess kurtosis ( $8.820691 - 3 = 5.820691$ ) that characterize the distribution.

**Table 4.1: Descriptive Statistics for OI and CLTA; *p*-value in brackets**

| Statistics         | CLTA               | Operating Income  |
|--------------------|--------------------|-------------------|
| Mean               | 76.05588           | 4.45E+08          |
| Standard Deviation | 5.308077           | 9.76E+08          |
| Skewness           | -0.133758          | 2.643907          |
| Kurtosis           | 1.925368           | 8.820691          |
| Jarque-Bera        | 1.839597 (0.3985 ) | 92.76212 (0.0000) |

Source: Author's Computation from E-Views 9.5

Table 4.2 reveals the results of the simple OLS regression that seeks to determine the extent to which banks' operating Income (LN\_OI) can be explained by their short-term obligations, measured as the ratio of current liability to total assets ratio (CLTA). As this table shows, the regression is not spurious as the value of the Durbin statistic (= 0.102547), although below the threshold of 2, is much higher than the value of  $R^2$  (= 0.012141). Spurious results are meaningless and statistically occur when  $R^2$  is greater than DW (Granger & Newbold, 1974). The intercept value (15.94215) indicates that, on average, banks have positive and significant ( $p$ -value = 0.0003) operating income even when there are no short-term debts in their financial statements. The beta coefficient of 0.033193 signifies that the two variables are positively related. A 1% increase in the ratio of short-term debt to total asset would increase operating income by approximately 0.03%. However, the effect of short-term debts is not significant as indicated by the associated  $p$ -value which is very high at 0.52. The R-squared indicates that the contribution of short-term debt to the total variation in operating profit is very low at less than 0.02%. Thus, the model does not fit well. Therefore, factors outside our model are responsible for the observed variability in the deposit money banks' operating profit.

**Table 4.2: Regression results**

| Variable  | Coefficient | Prob.                  |
|-----------|-------------|------------------------|
| Intercept | 15.94215    | 0.0003                 |
| CLTA      | 0.033193    | 0.5223                 |
| R-squared | 0.012141    | Durbin-Watson 0.102547 |

Source: Author's Computation from E-Views 9.5

## 5.0 Conclusion and Recommendations

### 5.1 Conclusion

The results of this study show clearly that a positive relationship exist between net operating income and short term debts of deposit money banks for the period under review. This implies that a 1 per cent increase in the ratio of short-term debt to total asset would increase operating income by approximately 0.03 per cent. Short term debt obligations are liabilities that fall due within one year and this characterizes the debt structure of deposit money banks, meaning therefore that deposit money banks should device alternative means of raising capital rather than relying so much on short term funds for their operations.

### 5.2 Recommendations

1. Deposit money banks should fund their operations largely from other external source of finance such as bond market to ensure diversification instead of relying heavily on the short term deposits of customers.
2. They should strive to maintain a healthy debt/asset ratio so as to stay liquid to enable them meet up with their short term obligations

## References

- Aburime, T. U. (2008). Determinants of bank performance: macroeconomic evidence from Nigeria. (Available at SSRN: [hp://ssrn.com/abstract=1231064](http://ssrn.com/abstract=1231064) or [hp://dx.org/10.2139/ssm.1231064](http://dx.org/10.2139/ssm.1231064))
- Adesina, J.B, Nwidobie, B.M, and Adesina O.O (2015) Capital structure and financial performance in Nigeria. *International Journal of Business and Social Research*, 5(2):21-31.
- Akhtar, N., Bano, M., Bano, S., Zia, H. T. & Jameel, N. (2016). Capital structure impact on banking sector performance in Pakistan. *International Review of Management and Business Research*, 5(2): 520-532.
- Awunyo-Vitor, D. & Badu, J. (2012). Capital Structure and Performance of Listed Banks in Ghana. *Global Journal of Human Social Science*, 12(5): 57-62.
- Donaldson, G. (1961). Corporate debt capacity: A study of corporate debt policy and the determination of corporate debt capacity. *Boston Division of Research, Harvard School of Business Administration*.
- Granger C.W; Newbold P. (1974) Spurious regressions in econometrics. *Journal of Econometrics* vol. 2 Pp 111- 120.
- Nnanna, O.J. (2006). Macroeconomic policies in Nigeria: a review. *The Tide Newspaper, Monday, Jan 9, 8*.
- Ngerebo T. A., & Lucky, A. L. (2016). Interest rate and deposit money banks' performance. evidence from Nigeria 1980 – 2014. *International Journal of Empirical Finance*, 5 (1):22 - 35.
- Samuel, D. K. (2016). Effects of capital structure on financial performance of commercial banks in Kenya. A thesis submitted to the Department of Business Administration, south eastern Kenya University, Kenya.
- Sharma, D. & Verma, R. (2014). Impact of capital structure on the performance: An empirical analysis of Indian banking sector. *International Journal of Research in Management, Economics and Commerce*, 6(9): 32-39.
- Shiferaw, N. (2013). Capital structure and performance of commercial banks in Ethiopia. A thesis submitted to the Department of Accounting and Finance, Jimma University, Ethiopia.
- Zafar, M. R., Zeeshan, F. & Ahmed, R. (2016). Impact of capital structure on banking profitability. *International Journal of Scientific and Research*, 6(3):186-193.