

An Analysis of Factors Affecting Leverage for Nigerian Deposit Money Banks: An Empirical Exposition

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Abstract

This study sets out to analyse empirically, that factors affecting leverage for selected Nigerian Deposit Money Banks between 2005 and 2014. Data for the studies were collected from secondary sources specifically from the audited financial statement of the selected banks for is ten years. Data collected were analysed using the Ordinary Least Square (Multiple Regression Method). Findings revealed that size and growth potential impact positively on leverage of selected banks while profitability does not impact positively on leverage. Based on the findings, it was recommended that directors of banks in Nigeria, should pay more attention to two key leverage indicators namely size and growth potentials when making financing decisions.

1.0 Introduction

An on going debate revolves around what determines a firm's leverage. The controversial view with respect to the debate on leverage theory is Myer's (1993) argument Stiglitz and Weiss (1981). Myer's (1984) question "how do firms determine leverage? Remains unanswered. Also Altman and Subrahmanyam (1985) saw the factors likely to determine corporate leverage as both extensive and indeterminate. Two landmark contributions: the corporate tax equilibrium models developed by Modigliani and Miller (1963) and the synthesis of personal and corporate tax effect by Miller (1977) represent extremes equilibrium models. In between these extreme are numerous papers which suggest that determining an appropriate leverage might involve a trade-off between tax subsidies cost which are likely to be associated with higher leverage. Angelo and Masulis 1980; and Modigliani, 1982). This theory postulates that an appropriate leverage involves balancing the tax advantages of debt financing against the costs arising from bankruptcy (Kraus and Litzenberger, 1982) and (Jenson and Meckling, 1976). The empirical support for this theory, however, is far from conclusive. For instance, Bradley, Jarrel and Kim (1984) find no clear evidence. In order to examine the factors determining leverage of a firm, many studies have examined several-specific factors. In a review article, Harris and Raviv (1991) report that leverage is positively related to non-debt tax shields, firm income and growth opportunities.

However, major studies so far have analyzed the role of firm-specific factors that determine leverage. Rajan and Zingales (1992) expanded the view of Harris and Raviv (1991) by identifying that leverage is positively related to growth, income and asset size related to return on asset. Bevan and Danbolt (1999) work complemented the work of Rajan and Zingales (1995). In this study, the objective is to add to these studies by specifically analyzing the factors affecting leverage for Nigerian Deposit Money Banks. The variables of interest (capital structure, growth and profitability are defined as follows. Capital structure means the addition of long-term debt and shareholders' fund. Profitability is the percentage of profit before tax to total assets. Size is the turnover (for other companies) or gross income (for Banks) or gross premium (in case of insurance companies) and growth means the percentage change in turnover/gross income or gross premium for a number of years.

1.1 Objective of the Study

This study seeks to perform the following.

1. To find out if there is a positive relationship between gearing (CAPSTAR) and company size.
2. To find out if there is a positive relationship between gearing (CAPSTR) and a company's growth options.
3. To find out if there is a positive relationship between gearing (CAPSTR) and profitability of the company.

1.1 Hypothesis

The following assumptions were made to direct this study.

1. There is a positive relationship between gearing (CAPSTAR) and company size.
2. There is a positive relationship between gearing (CAPSTR) and a company's growth options.
3. There is a positive relationship between gearing (CAPSTR) and profitability of the company.

2.0 Literature Review

The factors that are likely to determine corporate leverage are indeterminate (Altman and Subrahmanyam, 1985). The contributions by Miller (1977) represented landmarks because they are models built on restrictive assumptions which suggest that an optimum leverage might involve a trade-off between tax subsidies and the cost likely to be associated with higher leverage (De Angelo and Masulis, 1980; and Modigliani, 1982). The contributions by Bradley, Jarrel and Kim (1984) has the purpose of constructing a model of leverage determinants. It also reflects the potential loss of non-debt tax shields suggested by De Angelo and Masulis (1980). Secondly, it features an attempt to verify empirically, the models predictions through cross-sectional regression analysis of data. Modigliani and Miller (1963) argue that due to the tax deductibility of interest payments, companies may prefer debt to equity. This would suggest that highly profitable firms would choose to have high level of debts in order to obtain attractive tax shields. However, others such as Miller (1977) additionally considered the effects of taxation. If this approach is adopted, then disparities in the personal tax treatment of returns from equity to debt could eliminate any corporate tax advantages of tax shield on interest payments. There is a large argument linking increased leverage with increased costs. This has called for suggests on inverse relationship between riskiness and corporate debt levels, (Bradley, et al 1984). Thus, other things being equal, we might expect an inverse relationship between leverage and Non-debt components of firms.

However, empirical work by Kester (1986) suggests that return on asset determining factor. Kester’s work also features Growth variable which obviously could not be incorporated in Bradley, Jarrel and Kim’s (1984) one-period model. The authors decided to include such a variable and a further one to represent the dividend payout ratio. The hypothesis would be that, debt ratios would be negatively related to dividend payout ratios and positively related to growth since growth as measured by asset value would enhance the company’s ability to borrow further. Taking into consideration the key likely determinants –firms size, growth opportunities and profitability. Rajan and Zingales (1995) opines that “the effect of Gross income (size) on leverage is more ambiguous. In addition, larger companies are more likely to have a credit rating and thus have access to non-bank debt financing, which is usually available to smaller companies (Bevan and Danbolt, 1999). However, the empirical evidence is inconclusive; Barclay, Smith and Watts (1995) find a positive relationship between size and leverage. Stohs and Mauer (1996) find no size effect. Bevan and Danbolt (1999), opined that the views of Rajan and Zingales (1995) represented growth opportunities available to the company. This is in line with most studies which used proxies, other than valuation models to estimate growth opportunities. Myers (1977) argues that companies with large amounts of investment opportunities would tend to have low gearing ratios. However, as discussed by Myers (1977), Barnea, Haugen, and Senbet (1980), Stohs and Mauer (1996), and Michaelas, Chittenden and Poutziouris (1999), the relationship between growth opportunities and leverage be different for short and long-term forms of debt. In line with the foregoing debate this study therefore intends to extend the analysis of leverage determinants to Deposit Money Banks in Nigeria taking into account such variables like firm Gross income, growth potential, and Return on Assets.

3.0 Methodology And Source Of Data

Data for this study were collected from secondary sources particularly from the audited financial statement of 10 (ten) Deposit Money Banks for 10 (ten) financial years (2005-2014). Ordinary least square methods was used in estimating and analyzing the regression model. The reason for OLS choice for this study is because the required test is a test of association between leverage and some independent variables.

3.1 Model Specification

The theory behind this study is that leverage of a firm (LVRG) is a function of three independent variables namely gross income, growth and return on assets. This is represented thus:

$$LVRG = \text{Gross Income (GY) GRP, ROA} \dots\dots\dots 1$$

Where;

- LVRG = Leverage level
- Gy = Gross income of banks
- GRP = Growth Potentials
- ROA = Return on Assets.

$$LVRG = b_0 + b_1 Gy + b_2 GRP + b_3 ROA + U_t \dots\dots\dots 2$$

b1, b2, b3 > °

U_t = error term

Note: In this study, Leverage = proportion of debt to equity; Growth = % change in gross income of banks;

Profitability = Ratio of Net income; ROA = Total Assets of banks

4.0 Data Analysis

Some selected Deposit Money Banks for the period between 2005 and 2014 (ten years). The ordinary Least Square (OLS) technique was used to eliminate the parameters of the model specified by this study.

4.1 Results

LVRG (y)= b0 + b1 Gy + b2GRP + b3 ROA SPSS output.

Variables entered/removed

Model	Variable entered	Variables removed	Method
T	GY, GRP, ROA		Enter

Model	R	R ²	Adj. R ²	SE
1	.802a	.694	.605	2.515414E7

- a: All requested variables entered.
- Model summary
- a. Predictors: predictors: (constant) Gy, GRP, ROA.
- b. Dependent variables” LVRG

The t values are presented in the parenthesis below the coefficients. The R² values of 0.694, shows that about 69.4% of the total variations in LVRG can be explained by the independent variables. The F value of 7.9 signifies the 5% level. This shows that there is a significant linear relationship between LVRG and the various independent variables used. Finally, the result of this analysis suggests that GY is the major determining factor that influence the behavior of LVRG.

ANOVA^b

Model	Sum of square	Df	Mean square	F	Sig
Regression	7.291E15	2	3.646 E 15	7.922	0.016
Residual	3.221E15	7	4.601E14		
Total	1.051E 16	9			

- a. Predictors: (constant), GY, GRP, RVA
- b. Dependent variable: LVRG

Coefficient^a

Model	Unstandardized Coefficients		Standardized Coefficients		Sig	95% confidence Interval for B	
	B	Std error	Beta	t		Lower	Upper
Constant	260755.2	1.753E7		.419	.886	-3.88	4.406
GY	.246	.074	.724	3.308	0.070	0.60	.422
GPR	.306	.065	.939	3.045	.003		.875
ROA	-.333	.554	-.171	-.602	-.506	-1.643	.976

- a. Dependent variable: LVRG
- The Regression line becomes
- LVRG = 260755.24 + 0.246 GY + 0.306GRP-0.353ROA
- Tcal = (0.149) (3.308)
- Ttab = (10,0.05) = 1.813
- R² = 0.694 = 69.4%

4.3 Discussion

From the research carried out, it was confirmed that there are strong relationship between size, profitability, growth and leverage. It was found out that GY has a significant relationship with LVRG and it has a positive relationship with LVRG. This is therefore consistent with the views of Rajan and Zingales (1995) and Bevan and Danbolt (1999). This shows that as GY increases, LVRG will also found out that ROA does not have any positive relationship with LVRG. This also follows the view the Toy et al (1997), Titman and Wessels (1988), Rajan and Zingales (1995), Bevan and Danbolt and also Myers’ (1984) pecking order theory. This means that as

ROA increases, LVRG reduces. It was also found that growth potential does not have any significant relationship with LVRG and it has a positive impact on LVRG.

Titman and Wessels (1988), Chung (1993) and Barclay et al (1995), all found a negative relationship between growth and leverage. Thus, the result of this study, it is obvious that as growth potential increases, Leverage will increase. The issue of leverage is an important strategic financing decision that firms have to make. It is therefore recommended that:

1. Banks in Nigeria should pay more attention to leverage indicators particularly earnings and future growth potential for effective leverage determination.
2. Banks should be encouraged to access capital market opportunities to impact on their leverage.
3. Banks should think about entering the international markets to consider more organized forms of business. This will impact positively on their earnings and growth options.

5.0 Conclusion

The determination of factors affecting leverage of banks remains an important discussive topic in finance. Equally important is the question as to how corporate finance managers determine their leverage. This study makes an attempt to add to the growing body of literature on the factors affecting leverage by delving into the Nigerian DMBS.

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