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Impact Analysis of Interest Rate on the Net Assets of Multinational Businesses in Nigeria

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Abstract
The purpose for this research was to examine the relationship between interest rate and Net assets of Multinational Companies. It examined the impact of interest rate on net assets of multinational companies in Nigeria from 1995 - 2010. The population was made up of Sixty three companies selected according to market capitalization. A random sampling technique was used of which Seven Companies were selected as sample. The Net assets were represented by Net Assets Value Index in the model which is NAVI = a + b INT + U. A regression model was designed to test the relationship between the net assets and interest rate as a macroeconomic factor. The regression analysis showed that an increase in interest rate results in reduction in net assets. Therefore interest rate and net asset convey information about profitability, the right debt-equity mix which would allow management to take advantage and remain competitive.
Keywords: Interest rate, net assets, multinational businesses, macroeconomic factor, market capitalization.

1.0 Introduction

There is no economy activity which operates in a vacuum. In recent years, there has been tendency for business organizations to grow in size, and not only that more and more organizations are buying and selling goods and services across countries, that is, engaging in international businesses. These businesses are known as multinational company businesses. These companies react promptly and uncharacteristically to rumours of war, changes in regulation within its environment; political climate seen as a negative factor by the business (investing) community; and interest rate variation to general performance of the multinational companies.

Rogar (2000), as cited in Kayode (2002), defines multinational companies as some international businesses that consciously integrate their entire world wide activities rather than tackling particular foreign markets one by one. A multinational company (here in after referred to as MNCs) is one that operates throughout the world via it branches, subsidiaries and associated undertakings across territorial boundaries.

Reily and Brown (2000) opined that interest rates influence the level of corporate profits which in turn influence the net asset level. Most companies finance their capital equipments and inventories through borrowings. A reduction in the interest rates reduces the costs of borrowing and thus serves as an incentive for expansion resulting to a positive effect on future expected returns for the firm. The central concept of this research work is the vulnerability of multinational company net assets to changes in its macroeconomic environment can be expressed by measures of sensitivity to changes in the interest rate.

In accounting for interest rate fluctuations, there are two main traditions. The first is concerned with debt and its main focus is on the translation of foreign debt. Any deviations that occur are seen as related to differences in the exchange rate and/or in the interest rates in the countries concerned. These questions are interrelated and are often dealt with simultaneously, albeit implicitly rather than explicitly (Oxelheim, 1983). The other tradition is concerned with accounting for financial instruments as defined in SAS 13 and IAS 39, although the questions of risk may not be relevant in the case of all other instruments covered by these recommendations Francis (1990); Bierman, and Miltz and Sercu, (1993). At the beginning of the 2000s, the typical way of reporting the effects of interest rate fluctuations on net assets is to report effects on the financial side only. The effects of these changes on commercial exposure and overall performance are entirely ignored.

2.0 Statement of the problem

Most companies finance their capital equipments and inventories through borrowings. A reduction or increase in the interest rates reduces or increases the costs of borrowing and thus serves as an incentive or disincentive for expansion. This would affect future expected returns for the firm. The impact of interest rates as a key factor in the performance of multinational companies' net assets, both in terms of profitability and liquidity, cannot be overemphasized. Hence the task of study was to investigate this relationship.

3.0 Literature review

Various theories of interest rates put together explain or provide variables which determined interest rates. These theories differ because of differences of opinion as to whether rates are monetary or real phenomenon. These theories are: the classical theory of interest, the Keynesian liquidity preference theory of the rate of interest, the loan able funds theory of interest, neoclassical theory of Pigou, the Hicksian IS-LM framework and the monetarist framework of Friedman etc. (Anyanwu, 1993) briefly sketched in turns.

According to the classical theory the interest rate is determined by the intersection of the investment demand-schedule and the saving-schedule, i.e. schedule disclosing the relation of investment and saving to the rate of interest. However, no solution is possible because the position of the saving schedule will vary with the level of real income. The Keynesian posits that the rate of interest is determined by the intersection of the supply-schedule of money (perhaps interest inelastic, if rigorously fixed by the monetary authorities) and the demand schedule for money (Anyanwu and Oaikhenan, 1995). Interest rate structure in Nigeria has overtime been controlled and managed by Central Bank Nigeria (CBN). Every year, the CBN fixes the range within which both the deposit and lending rates are to be maintained. According to Jhingan (1999), interest rate can be classified into various categories; Deposit rates, lending rates, Treasury bill rate, Inter-bank rate and Minimum Rediscount rate. Oresotu (1992) explains that the basic functions of interest rates in an economy in which individual economic agents take decisions as to whether they should borrow, invest, save and/or consume, are summarized by International Monetary Fund (IMF) under three aspects; namely

- Interest rates as return on financial assets serve as incentive to savers, making them defer present consumption to a future date.
- Interest rates being a component of cost of capital affect the demand for and allocation of loan-able funds; and
- The domestic interest rate in conjunction with the rate of return on foreign financial assets and goods are hedged against inflation.

These broad roles of interest rates according to Oresotu (1992), emphasizes their significance in the structure of basic prices and indicate the need to study their determinants under a flexible regime. During the periods of rapidly changing prices, interest rate may be a poor index of returns evaluation. High interest rate may choke off investment; Ogiogio (1988), Alile (1992), explain that interest rate in Nigeria would significantly influence the holding of financial assets by investors.

Arising from the above, if there is a relationship, one should expect a negative association between interest rates and changes in the level of net assets.

4.0 Method and material

4.1 Sources of data:

The data used for this research work were basically obtained from secondary sources. Five years financial statement summary of sampled MNCs in Nigeria, Central Bank of Nigeria statistical Bulletin, 2008, Nigeria Stock Exchange fact-books, year 1998, 2003 and 2008, information from internet, Nigeria Finance Directory, sixth edition, 2006/2007 (by Goldstar Directories), Consultation of textbooks, Journals and past research reports of other researchers.

4.2 Data analysis technique:

The longitudinal design of the urvey was used in this study covering the period 1995 – 2010. The study subjects were studied in their natural settings through the use of the financial statements of the multinational companies. Samples of the multinational companies were taken and studied for generalization to the total population. This was because the issues in this study bordered on variables that are extraneous to the companies and so may not be controllable such as: the determination of the effect of inflation over the decision usefulness of financial reports on multinational companies in Nigeria. The population of this study was made up of sixty three (63) multinational companies spread across the country; they were selected based on their size, measured by market capitalization (big companies by capitalization). For the purpose of the study, the researchers selected a sample size of Seven (7) multinational companies which is a subset of the population. Particular attention was given to fifteen years financial statement of the companies used.

The sampling technique used in this research work was random sampling. The sample size was obtained by writing all the names of the MNCs in Nigeria on cards and shuffling the cards and taking the top card each time the cards were shuffled continuously until the required sampled size was met.

5.0 Results and discussions

The multiple regression method was used to analyze data collected adopting the ordinary least square (OLS) technique.

The model for this study was as specified below:

Y = a + b x … +U
Where:
Y = dependent or unexplained variable
a= Constant of the model
b = coefficient of the model
X = independent or explanatory variable
U = Stochastic variable or error team; and
NAVI= a+ b INT + U
Where: Dependent variable = NAVI = Net assets Value Index;
And Independent variable = INT = Interest Rate
The apriori is a + b INT + b > O.
The relevant regression results from the analysis are as given below:

5.1 Company A

4MODEL	Unstandardized Coefficients		Standard coefficient		
	B	Std. Error	Beta	T	Sig.
Constant	- 13155335	30515586		-4.311	.001
Interest rate	-19624.045	95636.12	-0.17	-.205	.841

Source: Researcher Computation

The goodness of fit of the analysis in appendix section is high, which is R = 97% confident that the variation of net assets in respect of interest rate studied, is highly related.
From the regression result in the table above using the Cochran Orcutt method, a critical evaluation of the result shows that the explanatory variable does not conform to the "apriori" expectation. The coefficient of interest rate is -0.17 and signifies that 10% increase in interest rate all things being equal will lead to 1.7% decrease in net assets. The F statistics as shown in the result in appendix section is 65.892, which passes the test of significant at 5%. That is at 5%, the observed f-statistics is 65.892, which is greater than the critical F-Statistic of 3.29 (i.e. 3.59 < 65.892). Thus, we conclude that there is a significant difference between the independent variable and dependent variable at 5%.

5.2 Company B

MODEL	Unstandardized Coefficients		Standard coefficient		
	B	Std. Error	Beta	T	Sig.
Interest rate	-59931.738	35683.70	- 0.301	-1.680	.121

Source: Researcher Computation

The goodness of fit of the analysis in appendix section is high, which is R =87% confident that the variation of net assets in respect of interest rate studied is highly related. From the regression result table above; it shows that the explanatory variable does not conform to the "apriori" expectation stated. The coefficient of interest rate is -0.301 and signifies that 10% increase in interest rate all things being equal will lead to 3.01% decrease in net assets. The F-statistics as shown in the result in appendix section is 11.358 and passes the test of significance at 5%. That is at 5%, the observed f-statistics is 11.358, which is greater than the critical f-statistics of 3.59 (i.e. 3.59 < 11.358). Thus, we conclude that there is a significant difference between the independent variable and dependent variable at 5%.

5.3 Company C

MODEL	Unstandardized Coefficients		Standard coefficient		
	B	Std. Error	Beta	T	Sig.
Constant	- 8514448	3528650.80		-2.413	.034
Interest rate	-28470.102	110588.24	-.048	-.257	.802

Source: Researcher Computation

The degree of accuracy of the analysis in appendix section is high which R is = 86% confident that the variation of net assets in respect of interest rate studied is highly related.
Based on the regression result in the table above, it shows that the explanatory variable does not conform to the "apriori" expectation. The coefficient of interest rate is -0.48 which signifies that 10% increase in interest rate; all things being equal will lead to 4.8% decrease in net assets. The F-statistic as shown in the appendix section is 10.095; it passes the test of significance at 5%. That is at 5%, the observed f-statistics is 10.095, which is greater than the critical f-statistic of 3.59 (i.e. 3.59 < 10.095). Thus, we conclude that there is a significant difference between the independent variable and dependent variable at 5%.

5.4 Company D

MODEL	Unstandardized Coefficients		Standard coefficient		
	B	Std. Error	Beta	T	Sig.
Constant	- 2942230	832033.90		-3.536	.005
Interest rate	43271.938	6179.036	.921	7.003	.000

Source: Researcher Computation
The degree of accuracy is 92.1% confident that the variation of net assets in respect of the independent variable studied is highly related. The regression result table above shows that explanatory variable conforms to the "apriori" expectation. The coefficient of interest rate which indicates that 10% change in the variable would result to 9.21 increases in net assets. The F-statistics is 20.482, which passes the test of significance at 5%, that is at 5%, the observed F-statistics is 20.482 which is greater than the critical f-statistical of 3.59. Thus, we conclude that there is a significant difference between the independent variable and dependent variable at 5%.

5.5 Company E

MODEL	Unstandardized Coefficients		Standard coefficient		
	B	Std. Error	Beta	T	Sig.
Constant	814116.97	272627.96		2.986	.012
Interest rate	. -3850.053	8544.185	-.109	-.451	.661

Source: Researcher Computation

The goodness of fit of the analysis, R=74.4%, in appendix section is high, which shows a 74.4% confident that the variation of net assets in respect of interest rate studied is highly related.
The regression result in the table above shows that the explanatory variable does not conform to the "apriori" expectation.

The coefficient of interest rate is -0.109, which shows that any 10% change in the variable results to 1.09 decrease on the net assets. The F-statistics is 4.536 as shown in appendix section passes the test of significance at 5%, that is at 5%, the observed f-statistics is 4.536, which is greater than the critical f-statistics of 3.59. We conclude that there is a significant difference between the independent variable and dependent variable at 5%.

5.6 Company F

MODEL	Unstandardized Coefficients		Standard coefficient		
	B	Std. Error	Beta	T	Sig.
Constant	- 741502.0	587847.37		-1.261	.233
Interest rate	-30315.978	18423.190	-.300	-1.646	.128

Source: Researcher Computation

The degree of accuracy of the analysis in appendix section is high which R is=86.4% confident that the variation of net assets in respect of interest rate studied is highly related.

The regression result in the table above shows that the explanatory variable does not conform to the "apriori" expectation. The coefficient of interest rate is -0.300 which shows that any 10% change in the variable results to 3.0% decrease in net assets. The f-statistics as shown in the appendix section is 10.832. It passes the test of significance at 5%. That is at 5%, the observed f-statistics is 10.832, which is greater than the critical f-statistics of 3.59, and thus we conclude that there is significant difference between the independent variable and dependent variable at 5%.

5.7 Company G

MODEL	Unstandardized Coefficients		Standard coefficient		
	B	Std. Error	Beta	T	Sig.
Constant	- 522164.6	229501.23		-2.275	.044
Interest rate	-5010.725	7192.589	-.118	-.697	.500

Source: Researcher Computation

The degree of accuracy is an R = 88.5% confident that the variation of net assets in respect of the independent variable studied is highly related. The coefficient of interest rate which shows that any 10% changes in interest rate results to 1.18% decrease in net assets. The F-statistic is 13.310, which passes the test of significance at 5%. That is at 5%, the observed F-statistics is 13.310, which is greater than the critical f-statistic of 3.59. We conclude that there is a significant difference between the independent variable and dependent variable at 5%.

6.0 Summary of findings

- From all the seven multinationals examined, an increase in interest rate resulted in a decrease in Net assets of these companies except in Company D, where an increase in interest rate resulted in an increase in Net assets. The reason for this situation in Company D cannot be explained.
- From apriori examination, it is a fact that interest rate will naturally affect inflation, exchange rate and some other macroeconomic variables which will consequently affect not only the Net assets of the companies but the position of the financial statement of these companies.
- There are so many bottlenecks of which companies cannot source for long-term funds from the banks and other financial institutions in order to achieve economic growth.
- The current interest rate i.e. 22% - charged by banks on loan accounts is quite at a high side whereby companies pay so much as interest on loan, which invariably reduces profit before tax.

An interesting point of the results is the relationship observed between respective net assets and interest rates. As hypothesized, the relationship between interest rates and net assets should be positive one. But this was found not to exist between the net assets and interest for all the seven multinationals examined, an increase in interest rate resulted in a decrease in net assets of these companies except in Company D, where an increase in interest rate resulted in an increase in net assets.

7.0 Conclusion

At this juncture, it is pertinent to state that interest rate and net asset convey information about profitability. The problems faced by multinational companies in financing their capital equipments and inventories through borrowings and their inability to meet up these needs effectively and efficiently prompted this research. Various literatures were reviewed and data analyzed to prove the hypothesis stated.

Evidence from the data analyzed shows that interest rate has a negative relationship with net asset; a good knowledge of interest rate is a good guide to financing business undertakings to attain maximum return.

8.0 Recommendations

On the basis of the findings; the following recommendations are made;

For any company to grow, such a company must expunge all negative effects that surface in carrying out its activity; interest rate should be properly managed through a considerable debt-equity mix, the benefit, risk and returns in order to gain sustainable competitive advantage in any country it operates or intend to operate.

Interest rates should be made moderate in order to encourage investment and transactions of multinational companies in Nigeria.

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APPENDIX

Dependent variable: Net Asset
Method: ordinary least square
Date: 28 – 6 – 2012
Time: 4:00pm
Sample: 1995- 2010
Included observation: 15

Company	Variable	coefficient	std. Error	T-statistic
Company A	Constant	-13155335	30515586	-4.311
	INT	-19624.045	95636.12	-.205
Company B	INT	-59931.738	3568370	-1.680
Company C	Constant	-8514448	3528650	-2.413
	INT	- 28470.102	110588.24	-.257
Company D	Constant	-2942230	832033.90	-3.536
	INT	43271.938	6179.039	-.003
Company E	Constant	-814116.97	272627.96	-2.986
	INT	3850.053	8544.185	-.451
Company F	Constant	-741502.0	587847.37	-1.261
	INT	-30315.978	18423.190	-1.646
Company G	Constant	-522164.6	229501.23	-2.275
	INT	5010.725	7192.589	-.697

R	Std. Coefficient	F- Statistic	Sig.	Interest rate
Company A	0.973	-0.17	65.872	.001
Company B	0.871	-0.301	11.358	.121
Company C	0.862	-0.48	10.095	.034
Company D	0.921	0.92	20.482	.005
Company E	0.744	-0.109	4.536	.012
Company F	0.864	-0.300	10.832	.233
Company G	0.885	-0.118	13.310	.044

NET ASSET (=N= MILLION)

Year	Company A	Company B	Company C	Company D	Company E	Company F	Company G
1995	1,044	1,032	3,023	1,934	1,236	2,385	5,863
1996	1,887	3,038	5,863	2,384	1,045	5,547	7,334
1997	1,045	2764	3,949	2,846	1,505	5,863	7,043
1998	1,505	4,876	6,324	3,485	3,023	7,334	8,363
1999	3,023	5,433	7,938	3,665	4,421	7,043	5,203
2000	4,421	5,863	4,435	3,784	5,341	8,363	12,484
2001	5,341	7,334	7,238	4,495	3,945	10,732	12,374
2002	5,043	7,043	8,236	4,943	4,566	8,884	18,374
2003	5,807	8,363	9,475	5,339	2,045	9,342	21,945
2004	3,753	10,732	10,484	7,743	5,505	10,484	35023
2005	4,098	31,834	14,834	8,458	6,023	14,834	24,038
2006	5,089	20,493	11,374	10,495	4,421	11,374	27,349
2007	6,564	18,384	12,485	11,490	5,341	12,485	22,458
2008	9,642	20,034	18,834	12,435	4,586	18,273	30,384
2009	20,837	21,394	20,334	14,936	8,586	20,382	31,938
2010	21,021	23,373	21,349	15,465	12,457	18,384	23,384

Source: CBN Statistical Bulletin

INTEREST RATE

YEAR	RATE (%)
1995	32
1996	27
1997	33.2
1998	23.4
1999	29.1
2000	30
2001	31.2
2002	21.3
2003	21.4
2004	21.3
2005	25.4
2006	25.7
2007	23.5
2008	23.2
2009	22.1
2010	22

Source: CBN Statistical Bulletin