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Effect of Macro-Economic Variables on Financial Performance Indicators - Evidence from Nigerian Conglomerates Sector

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Abstract: This study investigates the effect of macro – economic variables on financial performance indicators of Nigerian conglomerates sector, using data for the period, 2011 – 2014. Three (3) companies were selected out of the six (6) quoted in the Nigerian stock exchange. The Macro – economic variables used in this study are monetary policy rate, exchange rate and inflation rate, while the financial performance indicators used as proxies for profitability include earnings per share, return on equity and return on asset. The ordinary least squares regression model was used. The result reveals a positive significant relationship between monetary policy rate and earning per share and a weak negative relationship between exchange rate and company returns. It equally reveals that inflation rate has an insignificant negative relationship with the return on equity. The result may provide some insight to corporate managers, investors and policy markers.

Key words: Macro-economic · Financial performance · Consolidation sector and Nigeria

INTRODUCTION

The Nigerian conglomerates sector is a very important sector of the Nigerian economy. According to the Annual Report and Account of the companies 2014, this sector consists of mainly the earliest companies in Nigeria, some dating back to 1800s. The conglomerates sector has been contributing greatly to the development of the Nigerian economy since 1800s and has been the fore runner in manufacturing, marketing, automobile, logistics, real estate, agriculture, electrical and so on. Many companies in the Nigeria conglomerates sector have survived for many decades despite various policy changes and financial crises that have taken place in the country since their establishment. The sector has contributed greatly in the provision of employment, goods and services in Nigeria [1].

The financial performance of the companies in the Nigerian conglomerates sector has not been constantly impressive over the years. In some years, the companies will not do well resulting in low or no dividend to the shareholders, poor or no corporate social responsibility to the host communities, closure of some of their offices and retrenchment of some of their workers. In other years, the companies will achieve impressive financial performance and will be able to pay dividends, provide corporate social responsibility and retain their offices and workers.

The financial performance of the Nigerian conglomerates sector is affected by many factors including macro-economic variables. If the financial performance of this sector is not good, it will have a great negative consequence for the Nigerian economy.

Statement of the Problem: There have been inconsistencies in the financial performance of the companies in the Nigerian conglomerates sector. In some years, the companies will not do well resulting in low or no dividend to the shareholders, poor or no corporate social responsibility to the host communities, closure of some of their offices and retrenchment of some of their workers.

In other years, the companies will achieve impressive financial performance and will be able to pay dividends, provide corporate social responsibility and retain their offices and workers.

This study is undertaken with the aim of proffering solution to the lingering inconsistencies in the financial performance of the companies in the Nigerian conglomerates sector.

Objectives of the Study: The main objective of the study is to examine the effect of macro – economic variables on financial performance indicators of Nigerian conglomerate companies 2011 - 2014.

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The specific objectives of the study are:

- To examine the effect of Monetary Policy Rate (MPR) on Earnings per share (EPS), Return on Assets (ROA) and Return on Equity (ROE) of the 3 companies in the Nigeria conglomerates sector.
- To determine the relationship between the Exchange Rate (ER) and the Earnings Per Share, Return on Assets and Return on Equity of the 3 companies in the Nigerian conglomerates sector.
- To evaluate the effect of Inflation Rate (IR) on the Earnings per share, Return on Assets and Return on Equity of the 3 companies selected from the Nigeria conglomerates sector.

MATERIALS AND METHODS

The study is an ex-post factor research design, which covers the period 2011 to 2014.

Sample and Sampling Technique: A random sample of three (3) companies was drawn from the six (6) conglomerate companies quoted on the Nigerian Stock Exchange (NSE). The statistical tools used for the data analysis include;

- Descriptive statistics
- Correlation matrix
- Ordinary Least Square Regression (OLSR)

Table 1: Description of Dependent Variables and their Assessment

Name of variable	Proxies	Assessment
Return on Asset (ROA)	Profitability	Net income/total Assets
Return on Equity (ROE)	"	net income/ shareholder's equity
Earnings per share (EPS)	"	Net income-preferred dividend/Average common stock

Table 2: Description of Independent variables and their Assessment

Name variable	Proxies	Assessment
Monetary policy rate (MPR)	Macroeconomic variable	Annual MPR
Exchange rate (ER)	"	Annual Exchange Rate
Inflation rate (IR)	"	Annual Exchange in consumer price

Models Specification: Ordinary Least squares (OLS) Regression Used for analysis is as follows;

$$Y_{it} = B_O + B_1 X_{it} + B_2 X_{2t} + B_3 X_{3t} + E$$

where,

Y_{it} = ROA, ROE and EPS, X_{it} = monetary policy rate X_{2t} = Exchange rate, X_{3t} = Inflation rate, B_O = Constant and B_1, B_2, B_3 = regression parameters and E = error term.

RESULTS AND DISCUSSION

Table 3 tabulates the descriptive statistics of all dependent and independent variables with 12 observations of companies under study. On average the total return on assets of listed conglomerate companies for the period was 3.53% whereas the ROE was 8.23%. ROE between 15%-20% is considered favourable [2]. Also the conglomerates companies selected in this study vary due to their size and level of establishment. The average EPS of conglomerates companies was 0.46% for the years under study. Table 3 shows that Nigeria's average consumer price Index (inflation rate) was 9% during this time. As far as exchange rate is concerned, in 4 years, Nigeria has average of N157.96 to US$I. And on average, the monetary policy rate of Nigeria was 11.55% during 2011-2014

Table 4 Reports the correlation between all the dependent and independent variables with 12 observations of 3 companies in this study. The macroeconomics factors (MPR, ER and INF) are weakly and negatively correlated with ROA and ROE. And also the correlation between macroeconomic factors; monetary policy rate and exchange rate is clear to have positively weakly correlated with EPS.

As shown in table 5, the coefficient correlation R is 0.337 which means that there is a weak relationship between macroeconomic factors and Earning per share (EPS) over the years under study. Also the R2 value in table 5 reflects 11.4% contribution of macroeconomic factors towards the profitability of listed companies and remaining 88.6% variation in EPS is because of other influencing factors.

The regression equation for first model which shows three external factors influencing EPS. Table 6 gives the details of empirical results.

$$EPS = 2.305 + 0.107\ MPR - 0.017\ ER - 0.046\ INF + E$$

According to this result, monetary policy rate is proved to have positive influence on Earnings per share (EPS) at 5% level of Significance, so by keeping all other factors constant, one percent change in monetary policy rate will lead to 10.7% increase in EPS. It shows negative but insignificant effect of exchange rate (ER) on Earnings per share (EPS) with P-Value > 0.05, which means that any increase in the exchange rate leads to 1.7% decrease in EPS. And as hypothesized, inflation rate has an insignificant and negative impact on the EPS at 5% level of Significant, so every until change in inflation rate leads to 4.6% decrease in EPS.

Table 3: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	12	.48	9.54	3.53	2.36
ROE	12	1.63	20.38	8.23	6.00
EPS	12	.12	1.29	.46	.406
MPR	12	9.19	13.00	11.55	1.48
ER	12	152.33	168.00	157.96	6.228
INF	12	8.00	12.20	9.88	1.784
Valid N (list wise)	12				

Table 4: Correlations Matrix

		ROA	ROE	EPS	MPR	ER	IR
ROA	Pearson Correlation	1	.924(**)	.420	-.206	-.227	-.009
	Sig. (2-tailed)		.000	.174	.520	.477	.979
	N	12	12	12	12	12	12
ROE	Pearson Correlation	.924(**)	1	.635(*)	-.046	-.085	-.054
	Sig. (2-tailed)	.000		.027	.888	.792	.867
	N	12	12	12	12	12	12
EPS	Pearson Correlation	.420	.635(*)	1	.290	.174	-.219
	Sig. (2-tailed)	.174	.027		.360	.589	.494
	N	12	12	12	12	12	12
MPR	Pearson Correlation	-.206	-.046	.290	1	.763(**)	-.461
	Sig. (2-tailed)	.520	.888	.360		.004	.132
	N	12	12	12	12	12	12
ER	Pearson Correlation	-.227	-.085	.174	.763(**)	1	-.642(*)
	Sig. (2-tailed)	.477	.792	.589	.004		.024
	N	12	12	12	12	12	12
IR	Pearson Correlation	-.009	-.054	-.219	-.461	-.642(*)	1
	Sig. (2-tailed)	.979	.867	.494	.132	.024	
	N	12	12	12	12	12	12

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.337(a)	.114	-.219	.44831

Predictors: (Constant), IR, MPR, ER

Table 6: Coefficients(a)

		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
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Model		B	Std. Error	Beta	B	Std. Error
1	(Constant)	2.305	5.794		.398	.701
	MPR	.107	.141	.392	.760	.469
	ER	-.017	.039	-.255	-.427	.680
	IR	-.046	.099	-.202	-.465	.655

a Dependent Variable: EPS

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.170(a)	.029	-.335	6.93795

Predictors: (Constant), IR, MPR, ER

Table 8: Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	49.999	89.664		.558	.592
	MPR	.240	2.184	.059	.110	.915
	ER	-.242	.602	-.251	-.402	.698
	IR	-.633	1.532	-.188	-.413	.690

Dependent Variable: ROE

Table 9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.306(a)	.094	-.246	2.63948

a Predictors: (Constant), IR, MPR, ER

Table 10: Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	28.894	34.112		.847	.422
	MPR	-.097	.831	-.061	-.117	.910
	ER	-.132	.229	-.348	-.576	.581
	IR	-.345	.583	-.260	-.591	.571

Dependent Variable: ROA

This table shows that monetary policy rate has more effect on earnings per share than exchange rate and inflation rate. As expected if monetary policy rate increases companies have to increase prices of their goods and services due to additional cost. Both exchange rate and inflation rate have an insignificant effect on earnings per share. This is in line with the findings in Chandra (2004), [3], which submits that a rise in interest rate depresses corporate profitability and also in Beenstock and Chen (1988), [4], which investigated four factors-namely interest rate, money supply (M3), Fuel and material cost and the retail price index which revealed that unanticipated increase in interest rate and fuel and material cost reduce security returns.

According to Table 7 the value of R2 is around 3% showing very less contribution of selected macroeconomic factors towards Return on Equity (ROE). And also the coefficient of correlation R is 0.170 which means that there is a weak relationship between macroeconomic factors and return on Equity (ROE).

The Regression result of second model which computers the effect of independent variables on ROE are given in Table 8.

ROE = 49.99 +0.24MPR – 0.242ER – 0.633IR +E

Monetary policy rate (MPR) exerts a positive impact on ROE with p-value > 0.05 indicating its significance at 5% level. Exchange rate remains an insignificant factor affecting ROE of companies. Inflation rate is observed to have an insignificance negative relationship with ROE at 5% level of significance. Exchange rate and inflation rate have an insignificant negative relationship with return on equity (ROE) but monetary policy rate MPR, exerts a positive impact on return on equity. This result is consistent with Blson CM, Brailsford TJ and Hooper VJ (2001), [5], which concluded that a devaluation of the domestic currency has a negative relationship with return but inconsistent with the findings in [6], which revealed that exchange rate positively relates to Japan and Indonesia stock prices, both two large export countries.

In Table 9, the overall R2 value, the three external factors only contribute about 9% to ROA. The coefficient correlation R is 0.309 which means that there is a weak relationship between macroeconomic factors and return on Assets (ROA)

The Regression result of the third model including ROA is reported in Table 10. The regression equation for third model is given as follows.

ROA = 28.89 -0.097MPR – 0.132ER – 0.34IR + E

In Table 10, the rise in inflation rate, Exchange rate and Monetary policy rate of Nigeria has confirmed the decrease in ROA of the conglomerate companies, but the variables are proved insignificant with p-value > 0.05 at 5% level of significance.

This result shows that inflation rate has a negative relationship with return on assets (ROA) of the 3 conglomerates companies which is consistent with the result in Gallager and Taylor (2002), [7], which analyzed the relationship between macroeconomic variables and stock prices of US stock and found that the stock returns are negatively affected by both expected and unexpected inflation. It also agreed with the position in Omran and Pointon (2001), [8], that studies how the inflation rate affects the performance of the market of Egypt and they found a negative relationship between them. This is inconsistent with the findings in Choudhry (2002), [9] and Maysami *et al* (2004), [10], which found a positive relationship between inflation rate and returns. But in the two latter cases, the government has to play active role in preventing price from escalating. The finding in these studies agrees with the capital assets pricing model (CAPM) and the Arbitrage pricing theory (APT) [11].

CONCLUSION

This study examined the effect of macroeconomic variables (monetary policy rate, exchange rate and inflation rate) on financial performance indicators of the Nigerian conglomerates sector using ordinary least square regression model. This result reveals that more factors affect the profitability of the conglomerate companies other than the three macro-economic variables: monetary policy rate, exchange rate and inflation rate. The result equally shows that the impact of the macro-economic variables on the performance indicators varies, with the monetary policy rate having more impact on the performance indicators. It shows that exchange rate increase impacts the performance indicators of the conglomerates companies adversely because Nigeria is an import dependent nation. Inflation rate has an insignificant negative relationship with the return on equity (ROA).

Recommendations

- Efforts should be made to continuously monitor the monetary policy rate as it is currently done by the Central Bank of Nigeria and the Bankers Committee as any increase in monetary policy rate implies a higher expected return is expected. This is because the additional cost is passed to the consumers.
- Exchange rate should be equally monitored as Nigeria is an import dependent nation. Increase in exchange rate has a negative relationship on the return of the companies.
- Inflation rate which was revealed to have an insignificant negative relationship with the performance indicators should be equally controlled because increase in inflation rate has some negative effect on returns of the companies.

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