

Financial Ratio Analysis and Corporate Failure of Quoted Selected firms In Nigeria

Ese Theresaesenohor, Yakubu Abubakar, Gbenga Joseph
Olowe, Olaifa Oluwafemi Olumuyiwa

College of Education Warri

Abubakar Onotu Yakubu & Co Chartered Accountants

Gbengaolowe & Co Chartered Accountants

Department of Accounting Ahmadu Bello University Zaria

Submitted: 25-01-2022

Revised: 05-02-2022

Accepted: 08-02-2022

ABSTRACT

This study examines the impact of financial ratio analysis on corporate failure of selected quoted firms in Nigeria. The study has been conducted in different parts of the globe and in Nigeria with different findings which are mixed and inconclusive. The population of the study consists of ten (10) firms quoted on the Nigerian stock exchange as at 31st December 2020 out of which ten (10) firms were selected as samples for a period of twelve (12) years from 2009 to 2020 based on purposeful sampling technique. The study uses multiple regressions as a tool for analysis. The proxy for financial ratio analysis were Current ratio, Debt Equity Ratio, Total Debt ratio and Quick ratio while the proxy for Corporate failure was Net Profit Margin (NPM). The study reveals that Current ratio has a positive significant impact on Corporate failure of quoted selected firms in Nigeria. Quick ratio has no significant impact on corporate failure of quoted selected firms in Nigeria. Total-Debt ratio has significant impact on corporate failure of quoted selected firms in Nigeria. Debt – Equity Ratio has no significant impact on corporate failure of quoted selected firms in Nigeria.

Keywords: Corporate failure, Net profit margin, Debt – Equity Ratio, Current ratio, Quick ratio, Total-Debt ratio, Firm size.

I. INTRODUCTION

Corporate failure has to do inability of a company to make enough profit or revenue to pay its business expenses thereby the company's operations comes to an end. It happens due to poor management, incompetence, and bad marketing strategies. In a business environment, corporate failure of firms is quite common, wherein only

those firms survive, that adapt themselves according to the market. The basic symptoms of corporate failure are: Low profitability, High Gearing and Low Liquidity. The company's financial trends may represent these symptoms, which are related to one another. It is true that the performance of every enterprise is not same, some are exceptionally successful, and some underperform, even some enterprises fail. The overall success of the enterprise depends on the people it hires and control of the management of the firm's activities. Financial ratio analysis is the technique of comparing the relationship between two or more items of financial data from a company's financial statements. It is mainly used as a way of making fair comparisons across time and between different companies or industries. For the purpose of this study, Liquidity and solvency financial ratios are used to predict the corporate failure of the quoted selected firms. Empirical studies have been conducted on the financial ratio analysis and corporate failure include studies of Maricica and Georgeta (2012), Kral, P. et al (2018), Neophyton and Charalambous (2000), Merino (2020), are largely foreign base, therefore they are not conclusive and could not provide adequate evidence on the impact of financial ratio on predicting firm's corporate failure in Nigeria. and have provided mixed and inconclusive findings due to the data collected, methodology used and the industry used and to the best of our knowledge, among studies conducted in Nigeria, we have not seen a study that took into consideration the selected quoted firms from food and beverage and agricultural industries. To this end, this study attempt to fill the gap by examining the impact of financial ratio analysis on predicting corporate failure of selected quoted firms in Nigeria. The main objective of the study is to examine the

impact of financial ratio analysis on predicting corporate failure of quoted selected firms in Nigeria. Specific objectives are: to determine the extent to which Current ratio impact on predicting corporate failure of quoted selected firms in Nigeria, to determine the extent to which Quick ratio impact on predicting corporate failure of quoted selected firms in Nigeria, to determine the extent to which Total debt ratio impact on predicting corporate failure of quoted selected firms in Nigeria, to determine the extent to which Debt-Equity ratio impact on predicting corporate failure of quoted selected firms in Nigeria. In line with the specific objectives, three hypotheses are formulated which are: HO1 Current ratio has no significant impact on predicting corporate failure of quoted selected firms in Nigeria. HO2 Quick ratio has no significant impact on predicting corporate failure of quoted selected firms in Nigeria. HO3 Total debt ratio has no significant impact on predicting corporate failure of quoted selected firms in Nigeria. HO4 Debt-Equity ratio has no significant impact on predicting corporate failure of quoted selected firms in Nigeria

II LITERATURE REVIEW

Various studies have attempted to examine the financial ratio analysis predicting corporate failure. Maricica and Georgeta (2012) examined business risk failure analysis using financial ratios to accurately discriminate between failed and non-failed companies several years prior to failure. They investigated the predictive power of financial ratios for a sample of Romanian listed companies. The results showed that t-test showed the existence of some significant differences between two groups of companies, performing and non-performing companies, especially with regard to profitability, financial position and leverage both in 2010 and 2009. Kral, P. et al (2018) investigated Comprehensive assessment of the selected indicators of financial analysis in the context of failing companies. They study defined the so-called etalon unsuccessful business that can serve as a standard comparative basis for other unsuccessful companies operating in Slovak Republic. Own quantification of the selected ratios was created on the database of the published financial statements of several thousand businesses operating in Slovak Republic between 2014 and 2015. This database has undergone extensive filtration of extreme data for maximal objectification of the results. Universal criterion for inclusion of an enterprise into the category of unsuccessful enterprises through the values of the three ratios (R1, L3, Z4) was created. The criterion was named as unsuccessfulness

indicators while respecting the applicable legal standards of Slovak Republic governing the conditions of unsuccessfulness. Neophyton and Charalambous (2000) examined the development and validation of a failure classification model for UK public industrial companies using current techniques: logit analysis and Neural Networks. 51 matched-pairs of failed and non-failed UK public industrial firms over the period 1988-1997 were used. Prediction models were developed for up to three years prior to the failure event. The models were validated using an out of sample period ex-ante test and the Lachenbruch technique. The results revealed a parsimonious model that includes three financial variables, profitability, operating cash-flow and a financial leverage variable that yielded an overall correct classification accuracy of 83% one year prior to failure. Halim, A., Daud, S.N.M., Mazlan, A.R., Marzuki, A (2008) investigated the long-run dynamic linkages between the corporate failures in Malaysia and selected macroeconomic variables by employing the Autoregressive Distributed Lag (ARDL) bound test, a robust and recent time series technique which is applicable irrespective of whether the regressors are I(0) or I(1). Corporate failure rate as an ex-ante variable was used in a linear function model with five explanatory macroeconomic variables and a dummy variable to decipher the corporate failure rates during the Asian financial crisis was also included. The results showed that corporate failure rates in Malaysia are significantly and positively associated with the average lending rate, Inflation rate and, gross domestic product (GDP) in the long-run. Enache and Merino (2020) studied the reaction of the insolvency rate to the various shocks in the economies of Romania and Spain from 2008–2016. Structural Vector Autoregressive model was employed and they found out that the future values of the insolvency rate are explained by the past values of the interest rate and the retail trade index, more precisely macroeconomic risk factors cost of debt and changing in demand are main responsible for the health of non-financial corporations sector. In contrast, the influence of the investment rate on insolvency rate is not predictable. In addition, both in Romania and in Spain the interest rate are the main determinant of the insolvency rate variation, beyond its own innovations, in horizons of over 2 quarters. These results were obtained under the circumstances that the analysed period was characterized by the Great Recession and its recovery. In this situation, firms faced a lesser demand as well as a tightening on the possibilities of obtaining the external funds they needed, not

only to finance their expansion projects but even their daily operations. Consequently, many firms faced a negative environment that forced them to go out of the market. Beaver, Correia and McNichols (2010) examined financial statement analysis used to assess a company's likelihood of financial distress. Financial statement analysis was used by credit suppliers to assess the credit worthiness of its borrowers. Empirically, academic research in accounting and finance has focused on either bond default or bankruptcy. The basic issue is whether the probability of distress varies in a significant manner conditional upon the magnitude of the financial statement ratios. Pervan and Kuvek (2013) examined the relative importance of financial ratios and Non-financial variables in predicting of Insolvency of the most important decisions in every bank is approving loans to firms, which is based on evaluated credit risk and collateral. They compared two insolvency prediction models. The first model that used financial ratios resulted with classification accuracy of 82.8%, while the combined model with financial and nonfinancial variables resulted with classification accuracy of 88.1%.

III METHODOLOGY

This research adopted correlation research design and was considered adequate and appropriate for this study because it describes the statistical relationship between independent variables of the study (Debt – Equity Ratio, Current ratio, Quick ratio, Total-Debt ratio,) and the dependent variable (Net profit margin). The population consists of selected firms namely Ellah Lakes Plc, FTN Cocoa Processing Plc, Livestock Feeds plc, Okomu Oil Palm Plc, PrescoPlc, Nestle Nigeria Plc, Unilever Nigeria Plc, Cadbury Nigeria Plc, Seven Up Nigeria Plc and Nigeria Breweries Plc quoted on the Nigerian Stock Exchange as at 31st December 2020 and covered a period of Eleven (12) years (2009-2020). Purposeful sampling technique was employed to select the sample. The sample selected is: Ellah Lakes Plc, FTN Cocoa Processing Plc, Livestock Feeds plc, Okomu Oil Palm Plc, PrescoPlc, Nestle Nigeria Plc, Unilever Nigeria Plc, Cadbury Nigeria Plc, Seven Up Nigeria Plc, and Nigeria Breweries Plc. In line with this, the sample size are all the ten (10) selected quoted firms on the Nigerian stock exchange. The study employed panel data using statistical package for social sciences (SPSS 25) and Ordinary Least Square (OLS) method adopted in this study is a parametric statistical test that is based on a number of assumptions, the violation of which could affect the reliability of the results. The

Pearson correlation and t-test statistics were used for inferential analysis. Two of the most commonly encountered problems addressed in this study relate to normal distribution of the variables and descriptive statistics was used to test for normality of data.

Model Specification

The model that was used to test the hypothesis formulated for this study is presented below. The null Hypothesis is tested considering the results for the P-values at 1%, 5% and 10% level of significance.

$$NPM = f(\beta_1 CR + QAR\beta_2 + TDR\beta_3 + \beta_4 DER + \beta_5 FSIZE)$$

$$NPM = \alpha + \beta_1 CR + QAR\beta_2 + TDR\beta_3 + \beta_4 DER + \beta_5 FSIZE + \epsilon_i$$

Where

α = the intercept

NPM = Net Profit divided by sales

CR = Current Assets divided by Current Liabilities

QAR = (Current assets minus Inventory) divided by Current Liabilities

TDR = total liabilities divided by total assets

DER = Total Liabilities divided by (Total assets minus Total liabilities)

FSIZE = Firm Size measured as Natural log of total assets

ϵ_i = error term

Firm size and leverage are control variables.

IV. DATA PRESENTATION

This part presents the results of the descriptive statistics and regression results on the impact of financial ratios analysis on corporate failure of selected quoted firms in Nigeria. (4) Four explanatory variables and one (1) control variable are employed for the purpose of explaining and predicting the impact of impact of financial ratios analysis on corporate failure of selected quoted firms in Nigeria

Test of Normality

The normality tests are supplementary to the graphical assessment of normality. For this study, Z skewness and Z Kurtosis are used to test for normality of the four (4) independent variables; namely Debt – Equity Ratio, Current ratio, Quick ratio, Total-Debt ratio. The Z skewness was computed as skewness divided by standard error of skewness and the Z kurtosis was computed as kurtosis divided by standard error of kurtosis.

Table 4.2.1 shows the skewness, kurtosis and Z skewness and Z kurtosis.

Table 4.2.1 Descriptive Statistics Table for the Variables

Variables	Skewness	Standard Error	Z Skewness	Kurtosis	Standard Error	Z Kurtosis
CA	3.318	0.221	15.013	12.934	.438	29.529
QAR	4.138	0.221	18.723	19.184	.438	43.799
TDR	1.977	0.221	8.945	4.027	.438	9.194
DER	3.384	0.221	15.104	13.786	.483	28.542

This table shows the normality test for Current ratio, Quick ratio, Total Debt ratio, Debt-Equity ratio.

In Smallsamples like that of this study which the number of observations is 120, values of Z skewness and Z kurtosis greater or lesser than 1.96 are sufficient to establish normality of the data. The result of Skewnessfor Current ratio is 3.318.The Z skewness of Current ratio is 15.013 which is more than 1.96 shows that the data is normal which indicates that the data for Current ratio relates linearly to the dependent variable (Net Profit Margin). The results of the Kurtosis for Current ratio is 12.934 and the Z kurtosis of Current ratios 29.529is more than 1.96 and therefore, is normal which indicates that the data for Current ratio relates linearly to the dependent variable (Net Profit Margin). The result of Skewnessfor Quick ratio is 4.138.The Z skewness of Quick ratio is 18.723 which is more than 1.96 shows that the data is normal which indicates that the data for Quick ratio relates linearly to the dependent variable (Net Profit Margin). The results of the Kurtosis for Quick ratio is 19.184 and the Z kurtosis of Quick ratios 43.799 is more than 1.96

and therefore, is normal which indicates that the data for Quick ratio relates linearly to the dependent variable (Net Profit Margin).The result of Skewnessfor Total-Debt ratios 1.977. The Z skewness of Total-Debt ratios 8.945 which is more than 1.96 shows that the data is normal which indicates that the data for Total-Debt ratiorelates linearly to the dependent variable (Net Profit Margin). The results of the Kurtosis forTotal-Debt ratios 4.027 and the Z kurtosis of Total-Debt ratio is 9.194 is more than 1.96 and therefore, is normal which indicates that the data for Total-Debt ratiorelates linearly to the dependent variable (Net Profit Margin).The result of Skewnessfor Debt – Equity Ratio is 3.384. The Z skewness of Debt – Equity Ratio is 15.104 which is more than 1.96 shows that the data is normal which indicates that the data for Debt – Equity Ratio relates linearly to the dependent variable (Net Profit Margin). The results of the Kurtosis for Debt – Equity Ratio is 13.786 and the Z kurtosis of Debt – Equity Ratio is 28.542 is more than 1.96 and therefore, is normal which indicates that the data for Total-Debt ratio relates linearly to the dependent variable (Net Profit Margin).Ghasemi and Zahediasl (2012).

4.2.2Financial Ratios Analysis impact on Corporate Failure

Variable	Coefficient	T – value	P – value
Constant	1.105	-1.672	0.097
CR	0.078	11.891	0.000
QAR	0.146	0.890	0.376
TDR	0.021	-2.714	0.008
DER	0.093	1.348	0.180
FSIZE	0.112	1.580	0.177
R	0.88		
R ²	0.78		
Adj R ²	0.77		
F stat	84.65		
F-Sig	0.000		
DW	0.839		

Source: Author’s computation using SPSS 25

The estimated equation of the study is presented as follows:

$$\text{NPM} = 1.105 + 0.078 (\text{CA}) + 0.146 (\text{QAR}) + 0.021 (\text{TDR}) + 0.093 (\text{DER}) + \text{FSIZE.}$$

Corporate failure of firms measured by Net Profit Margin would be equal to 1.105 when all other variables are held to zero. A one unit change of Current ratio all other variables remain constant, would increase Current ratio by 0.078. The regression result of the study shows that the beta coefficient in respect of Current ratio is (0.078) and the t-value is (11.891) and it is significant at 1%. This means that, Current ratio has a positive significant impact on corporate failure of quoted selected firms in Nigeria. The implication of this is that, the higher the Current ratio the clearer the firm is able to see the indicators of predicting corporate failure of quoted selected firms in Nigeria. This provides an evidence of rejecting the hypothesis stating that Current ratio has no significant impact on corporate failure of quoted selected firms in Nigeria. A one unit change of Quick ratio all other variables remain constant, would increase Quick ratio by 0.146. The regression result of the study shows that the beta coefficient in respect of Quick ratio is (0.146) and the t-value is (0.890) and is not significant. This means that, Quick ratio has no significant impact on corporate failure of quoted selected firms in Nigeria. The implication of this is that, the higher the Quick ratio, the firm is not able to see the indicators of predicting corporate failure of quoted selected firms in Nigeria. This provides an evidence of accepting the hypothesis stating that Quick ratio has no significant impact on corporate failure of quoted selected firms in Nigeria. A one unit change of Total-Debt ratio all other variables remain constant, would increase Total-Debt ratio by 0.21. The regression result of the study shows that the beta coefficient in respect of Total-Debt ratio is (0.21) and the t-value is (2.714) and it is significant at 10%. This means that, Total-Debt ratio has significant impact on corporate failure of quoted selected firms in Nigeria. The implication of this is that, the higher the Total-Debt ratio, the firms are able to see the indicators of predicting corporate failure of quoted selected firms in Nigeria. This provides an evidence of rejecting the hypothesis stating that Total-Debt ratio has no significant impact on corporate failure of quoted selected firms in Nigeria. A one unit change of Debt – Equity Ratio all other variables remain constant, would increase Debt – Equity Ratio by 0.093. The regression result of the study shows that the beta coefficient in respect of Debt – Equity Ratio is (0.093) and the t-value is (1.348) and is not significant at all levels of significant. This means

that, Debt – Equity Ratio has no significant impact on corporate failure of quoted selected firms in Nigeria. The implication of this is that, the higher the Total-Debt ratio, the firms are not able to see the indicators of predicting corporate failure of quoted selected firms in Nigeria. This provides an evidence of accepting the hypothesis stating that Debt – Equity Ratio has no significant impact on corporate failure of quoted selected firms in Nigeria.

The impact of the financial ratio analysis is able to explain the dependent variable up to (88%). This shows a strong positive relationship as indicated by the R value and the remaining (12%) are controlled by other factors. Similarly, the result of the F-statistic shows the overall fitness of the model. The F-statistic has a value of (84.65) and is significant at 1% which implies that the model is fit because it is significant at all levels of significant. Durbin Watson of (0.839) shows that there is no problem of autocorrelation in the data set (Gujarati, 2004).

Findings of the Study

Current ratio has a positive significant impact on corporate failure of quoted selected firms in Nigeria.

Quick ratio has no significant impact on corporate failure of quoted selected firms in Nigeria.

Total-Debt ratio has significant impact on corporate failure of quoted selected firms in Nigeria.

Debt – Equity Ratio has no significant impact on corporate failure of quoted selected firms in Nigeria.

V. CONCLUSIONS

This study has contributed to findings on Accounting Research in Nigeria. It investigated whether financial ratio analysis as one of the tools in predicting corporate failure is able to help quoted firms to know the ratios that they can use to predict business failure. The study concludes that Current ratio and Total debt ratio can be used to predict business failure selected agricultural and food beverages firms in Nigeria. Quick ratio and debt equity ratios cannot be used to predict business failure of selected agricultural and food beverages firms in Nigeria.

REFERENCES

- [1]. Beaver, W.H. Correia, M. & McNichols, M.F., (2010) Financial Statement Analysis and the Prediction of Financial Distress, Foundations and Trends in Accounting Vol. 5, No. 2.
- [2]. Enache, C. and Merino, F. (2020), Macroeconomic Determinants of corporate Failures: Evidence from Romania and Spain,

- Journal of Business Economics and Management, ISSN 1611-1699, eISSN 2029-4433 Volume 21 Issue3: 743-759
- [3]. Ghasemi and Zahediasl(2012), Normality Test For Statistical Analysis: A Guide for Non- Statisticians, International Journal of Endocrinology and Metabolism.
 - [4]. Gujarati (2004), Basic Econometrics, Fourth edition
 - [5]. Halim,A., Daud, S.N.M., Mazlan, A.R., Marzuki, A (2008) Macroeconomic Determinants of Corporate Failures in Malaysia,
 - [6]. Kral, P., Musa, H., Lazaroiu, G., Misankova, M., &Vrbka, J. (2018) Comprehensive assessment of the selected indicators of financial analysis in the context of failing companies, Journal of International Studies,11 (4), 282-294. doi:10.14254/2071
 - [7]. Maricica,M. &Georgeta, V. (2012), Business failure risk analysis using financial ratios Procedia - Social and Behavioral Sciences, doi: 10.1016.
 - [8]. Neophyton, E. and Charalambous, C. (2000), Predicting Corporate Failure: Empirical Evidence for the UK,Journal of International Studies.
 - [9]. Pervan, I. &Kuvek, T. (2013), The Relative Importance of Financial Ratios and Non - financial Variables in Predicting Insolvency, Faculty of Economics, University of Split Maticehrvatske 31, 21000 Split, Croatia.