Potency of Financial Ratios in Predicting Corporate Failure in Nigeria. A Focus on South West, Nigeria

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I.   Introduction

Virtually all entities throughout the world be it a business entities or otherwise have developed and designed one Instrument or the others to either quantify their products or to measure the performance of their entities. Take for instance, the Scientists designed various Instruments such as Minimum and Maximum thermometer to measure the hotness and coldness of the body, Chemical balance to measure the weight of objects, Sechi –disc to measure the turbidity of water, Speedometer to measure the speed of a moving object. Similarly, the Geographers designed Rain-gauge to measure the amount of rain that falls over a period of time, Wind vane to measure the direction of the wind just to mention but few.

However, in social Sciences and in accounting in particular, there is no Instrument specially designed to perform this function of measurement. Despite the absence of designed Instrument for measuring organizational performances; they came out with different Models for measuring their organizational performance. Some of these Models include; Linear Discriminant analysis Model, General additive Model, More Model and Altman-Z score Model etc. All these Models depend ultimately on ratios analysis as their thermometric liquid for measuring their organizational performance and also for predicting the healthy position of their business entities. The ratios often used by Financial analysts can be broadly divided into; Profitability and efficiency ratios, Solvency and Liquidity ratios and finally, Potential and actual growth ratios according to Jennings (2005).

The questions that readily come to the mind of this researcher are that which of these ratios is or are of more important than others? Are the ratios having equal weight in predicting corporate failure? These and many more of these questions prompt this researcher to embark on this study.

Purpose of the Study

The broad objective of this study is to find out whether ratios analysis has equal ability in dichotomize corporate organizations into failed and non-failed (healthy) components. To be able to accomplish the above stated objective, the following specific objectives were considered:
(1)   To analyze the financial statements of some quoted companies in Nigeria.
(2)   To assess the recent trend of business failure and identify common causes of corporate failure.
(3)   To identify the key variables determining the solvency of corporate organization in Nigeria.

Research Questions

The following research questions were answered by the study;
1 Are some financial ratios significantly better at detecting the imminent corporate failure?
2   Which financial ratios are the most important for detecting potential insolvency in corporate organization?
3   Were there any differences between the means of the ratios of failed group and non-failed group?
4   Can leverage ratio, profitability ratio be established as the main factors responsible for corporate failure?

Research Hypotheses

To answer the above questions, one hypothesis is generated and tested:
Ho-There is no significant difference between the means of the ratio in each group (i.e failed group and non-failed group)s to the spread of the ratios within each group.

Significance of the Study

The empirical finding in this study would in no small measure; provide warning signal to both the internal and external "users of financial statements in planning, controlling and decision making process.

Similarly, if a company has the ability to improve their financial position during good years in capital markets, while being unable to improve them in the long run, then, ratios analysis serve as a useful and veritable tool in the hands of company management either to proceed on company restructuring, or to proceed to a merger with other companies in other to put their company back in its right footing.

This study will reveal weather all ratios have equal capacity in classifying correctly companies on the basis of their characteristicsinto two groups: those which are likely to fail(i.e. go bankruptcy) and those not likely to fail.

Furthermore, the study will put the investors (be it existing and potential) on their toes whether to invest or to dis-invest in a particular company. The findings of the study are to stimulate awareness about the timely detection of distress in corporate organizations concerns thereby avoiding the horrendous consequences of their subsequence liquidation some of which include:

(i) Loss of jobs by employees.

(ii) Loss of money in form of capital and interests from loans lent to the affected companies by financial institutions.

(iii) Loss of revenues in form of tax by the Government from the affected companies.

Finally, the result of this study if adopted will reduce the rate of corporate failures in Nigeria and help in sustainability and establishing a new one which will go a long way in fulfilling our aspiration for the sub-sector to increase its share of the domestic market from the present position 12 percent to 25 percent by 2020. This increase is expected to create over 60,000 additional direct jobs and put food on the table for thousands of other Nigerians thereby improving the economy of the country as a whole as predicted by Ortom[0].

SCOPE OF THE STUDY

This study covers all manufacturing companies that are registered with corporate affair commission and listed in stock exchange market with their headquarters located in the southwestern region of Nigeria at one time or the other.

II.   Literature Review

Altman Z-Score model has been used by many researchers to assess the probability of a company experiencing financial distress. Rahmat (2002) conducted a study by applying the Z-Score model to assess the financial performance of banks in Indonesia in 1995-1997 before they were declared bankrupt by Bank Indonesia. Pongsatat, et al. (2004) applied Ohlson's logit model and Altman's four-variance model to assess the financial performance and the possibility of financial distress at small and large companies in Thailand. Christopoulos et al. (2009) used Altman model to predict the likelihood of bankruptcy and concluded that Altman model was able and accurately identify sample the corporate financial difficulties. Altman model was more useful than traditional financial analysis. Endri (2009) applied the model of Altman in Islamic banking by using data from 2005 to 2007. Duvvuri (2012) applied Z-Score model to determine the corporate health of The Nagarjuna Fertilizers and Chemicals Limited after briefly experiencing financial difficulties in 2001. Some studies, especially those conducted in the banking industry conclude that the model of Altman ZScore (first model and last revised model) was less appropriate when it was used to assess the performance of a bank, both commercial banks and Islamic banks (Rahmat 2002, Endri 2009). This was mainly because the ZScore model was formed from empirical studies of manufacturing industry that would have strongly different characteristics from banking industry. This assessment, coupled with the decision of the Committee Basel I in 1988 in adopting the CAMEL model as the standard model of bank rating, made a lot of researchers who then used the CAMEL model as primary measurement tool in assessing the health condition of a bank. Research by using CAMEL was conducted by several researchers such as Thomson (1991) who used to assess the CAMEL model to assess banks that faced failure in the 80's and concludes that CAMEL ratios can accurately predict the possibility of failure in a bank so it can be used as an early warning system in the banking industry, Manoj (2010) and Reddy S. (2012) who applied CAMEL ratio between the Bank in India, Mylonakis, et al. (2011) who used the CAMELS ratios to reassess the bankruptcy of Lehman Brothers. Prassad and Ravinder (2012) applied CAMEL by averaging each variable and the analysis results show that Andhara Bank is the best bank in India followed by Bank of Baroda and Punjabh & Sindh Bank.

Research Design

The research design adopted in this study is the ex-post-facto research design. This design was employed because data collected for the study were not subjected to any direct manipulation by the researcher, for the independent variables had their influence on the dependent variable prior to the commencement of the study.

Population of the Study

The populations for this study consist of all profit oriented corporate organizations that registered with Corporate Affair Commission and listed in stock exchange market at one time or the other with their Head office located in the South Western States of Nigeria (i.e Ekiti, Ondo, Osun, Oyo, Lagos, and Ogun State).

Sample and Sampling Techniques.

Two sampling techniques were employed to select 20 companies from the total population. A stratified sampling method was first employed which dichotomies the population into failed companies and non-failed companies. After which a purposive sampling method was adopted to select 10 samples from each group to give a total of 20 samples.

A purposive sampling technique was adopted because of the difficulties faced by the researcher in getting across to the financial statement of the companies involved.

Data Source

In order to meet the objectives of the study, data were collected from secondary source mainly from the financial reports of the selected companies, which were registered with Corporate Affair Commission.

RELIABILITY AND VALIDITY OF THE DATA

Data for the study was drawn from audited accounts i.e. income statement and balance sheet (The financial statement) of the concerned companies, therefore, this data may be considered reliable for the purpose of this study. As to the validity of the instrument, necessary checking and cross checking were done while scanning information and data from the secondary source. All these efforts were made in order to generate a valid data for the study. Hence, the researcher satisfied the content validity criterion.

Data Analysis Method

Computation of five different important ratios from the data collected were carried out. These ratios are:
(1) $T1$ = Working Capital/ Total Assets
(2) $T2$ = Retained Earnings/ Total Assets
(3) $T3$ = EBIT/Total Assets
(4) $T4$ = Market Value of equity/ Book Value of Total Debt
(5) $T5$ = Sales/ Total Assets

The means and the Standard deviations for each of the computed ratios were calculated for both failed and non-failed companies, and the results obtained were subjected to students T-test. This is done to find out if there is significant difference between the means of the ratio between failed and non-failed companies, so selected using the student T-test as in formular below:

t=

where x1= means of the ratio of failed companies

x2= means of the ratio of non-failed companies

S = Standard deviation of failed companies

S = Standard deviation of non-failed companies

n1 and n2 is number of companiesfrom each group.

4.3   The Hypothesis 2

There is no significant difference between the financial ratios of failed and non-failed companies firm becoming bankrupt.

Results of the findings

Table 1: t-test showing T_1 of failed and non-failed companies

Category	N	Mean	SD	Df	T	P
Failed	10	0.4872	0.3247	18	0.033	0.974
Non-failed	10	0.4825	0.3172			

P>0.05

Table 2: t-test showing T_2 of failed and non-failed companies

Category	N	Mean	SD	Df	T	P
Failed	10	0.1226	0.1135	18	1.463	0.161
Non-failed	10	0.2941	0.3528			

P>0.05

Table 3: t-test showing T_3 of failed and non-failed companies

Category	N	Mean	SD	Df	T	P
Failed	10	0.1131	0.0739	18	2.334	0.031
Non-failed	10	0.4050	0.3885			

P<0.05

Table 4: t-test showing T_4 of failed and non-failed companies

Category	N	Mean	SD	Df	T	P
Failed	10	2.6335	4.2675	18	0.126	0.901
Non-failed	10	2.8374	2.8185			

P>0.05

Table 5: t-test showing T_5 of failed and non-failed companies

Category	N	Mean	SD	Df	T	P
Failed	10	0.8296	0.5108	18	10.648	0.024
Non-failed	10	7.5975	1.9440			

P<0.05

The Interpretation;

Tables 1-5 above show that the difference between the $T_1 = 0.033$, P>0.05), T_2 (t=-1.463, P>0.05), T_4 (t=0.126, P>0.05) of failed and non-failed companies is not statistically significant at 0.05 level in each case. This result shows that Null hypotheses hold that is, there is no significant deference's in these ratios between the failed group and non-failed group. However, there is statistical significant difference between T_3 (t=2.334, P<0.05) and T_5 (t=10.648, P<0.05 of failed and non-failed groups companies at 95% confidence level in each case and hence the null hypotheses is hereby rejected while the alternative hypotheses holds that there is a significance deference in these two ratios between the two groups. To this end, T_3 and T_5 that is the ratios of Earning before Interest and Tax to Total Assets, and Sales to Total Assets seem to be the best ratios amongst all ratios used in predicting corporate failure in Nigeria for they both shown a significant difference at 95% confidence between fails and non-fails corporate organizations.

III. Conclusion and recommendation

Based on the findings it was discovered that the ratio of earning before interest and Tax to Total Assets are the best ratios amongst all ratio used in predicting corporate failure in Nigeria, this ascertion is corroborated by Altman's Z score Model as it awarded weight of 3.107 and 0.998 to this ratio while lesson weights was given to other ratio in the model.

Limitations of the Study

Since data for this study is gotten from financial statements of the selected companies which are prepared based on assumptions of accounting concepts and conventions, this conveyed some hindrance on this study. Take for instance, the historical cost convention which states that fixed assets should be recorded at their historical (original) cost and the cost might not reveal the actual cost of such Assets due to inflammatory effects. Also accrual concepts have similar effects on this study.

5.1 Recommendation

In the light of the above, following strategies should be adopted by the commission to reduce the incidences of inaccurate corporate financial reporting:

a) Organizations should file quarterly, interim financial statements and annual reports in accordance with accounting standards.

b) Segmental reporting in financial statement of quoted companies that operate in different lines of business or in different jurisdictions multinational corporation or group of companies should be adopted in line with global best practices. The commission regards this as essential to full disclosure of companies' activities because a group when viewed from one segment may appear profitable, whereas in actual fact it is doing poorly on aggregate thereby concealing the inherent risk factor in the business from investors.

c) The chief executive officer, director and the chief financial officer must be made to swear in to an oath of correctness of information contained in the audited accounts. This is to confirm that due care has been taken in the preparation of account and such officers would be held liable if any falsehood are later discovered in the account.

d)   External Auditor should be change every five (5) years in order not to get too friendly or compromise their position with the company being audited.

e)   There should be an action plan for compliance with the code of corporate governance by the commission, in terms of supervision and enforcement activities so as to reinforce the provisions of the code of corporate governance.

f)   The commission should embark on promoting shareholders/investors rights looking into aspect relating to their participation in the nomination and election of board members as well as their removal. \

g)   Code of conduct for Shareholders' Association in collaboration with other financial sector regulators as well as the Corporate Affair Commission (CAC), the Bureau of Public Enterprises (BPE) should be adhered to as a set of rules to guide their conduct of general meetings of members and also ensure good governance in public companies.

h)   Public enlightenment: the commission should intensify efforts in their public enlightenment programme, in collaboration with the World Bank and the Nigeria Accounting Standards Board in order to sensitize shareholders, corporate managers and other shareholders on the relationship between financial reporting and the achievement of good corporate governance.

i)   There should be a periodic review of Financial Reporting and code of best practice in the area of reporting format designed to test compliance, by directors of companies, with the code of corporate Government in line with SEC Rule 66B

j)   The commission should ensure that the Accounting standards used in preparing public financial statements comply strictly with international financial reporting standards.

k)   The commission should ensure that the code of conduct put in place for maintaining sanity in the capital market by operators in the Nigeria capital market, must be embraced.

l)   Finally, any erring external auditor should be suspended for five years, after the withdrawal of its operating licensee by the commission and its professional body.

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