

Cash Management Effect on Corporate Going-Concern Status: A Comparative Study of Manufacturing Companies and Deposit Money Banks in Ghana and Nigeria (2010-2014)

Agbeja, O. (Ph.D)^a, Afolabi, C.^b

^a P.O Box 2517, Obafemi Awolowo University, Ile-Ife 220005, Osun-State, Nigeria.

^b Isaac Gold Management Consultancy, Osogbo, Osun-State, Nigeria.

Abstract

The manufacturing sectors and the banking sectors of two emerging West African economies of Ghana and Nigeria are crucial for the survival of these two nation states. The manufacturing companies and the deposit money banks with up-to-date data were included in this study. Secondary data from the final accounts of these businesses constituted the bulk of the data. ANOVA, SPSS and Excel were employed to generate datasets. Altman Discriminant analysis method was applied to the datasets. The going-concern status for each domain was plotted. The study concluded that Ghana manufacturing companies and Nigerian deposit money banks showed a greater promise of continuity.

Keywords: Cash Management, Altman discriminant model, Liquidity, Solvency, Profitability and Leverage.

1.1 Introduction

The global financial crisis has demonstrated the importance of establishing a sufficient level of liquidity to cope with adverse conditions. These tensions which emerged in the financial market have highlighted serious flaws in methods of management of liquidity risk of some banks (Gomes & Khan, 2011). The liquidity shortage in 2007 reminds us similar events in 1998 and 2003, following a widespread reluctance to involve in transactions which caused paralysis in the financial system. These events should

not be regarded as mere aberrations. They reflect characteristics of market liquidity that have been insufficiently appreciated until now (Crockett, 2008).

Banks typically have the primary function of converting liquid deposit (liabilities) to illiquid assets such as loans, which makes them inherently vulnerable to liquidity risk. Management of liquidity risk is, for banks, to seek to preserve their ability to fulfil their role. While some outflows are known with certainty, others, however, depend on external events and become, therefore, sources of liquidity risk.

1.2 Statement of the Problem

Strategic researchers had carried out series of research works on reason for holding cash balances among which are; Jensen (1986), Ang (1991), investigated relationship between liquidity and profitability. While most of these works used profitability as a proxy for business concern's ability to continue operation into a foreseeable future. This study assesses the relationship between cash management and going- concern of some selected manufacturing companies and deposit money banks listed in the Stock Exchange of Ghana and Nigeria.

1.3 Research Questions

In order to situate the thesis in the right perspective, the following pertinent issues are raised for investigation:

1. In this ever competitive world, how are the real sectors of the economy performing in Ghana and Nigeria?
2. Will the manufacturing sectors of Ghana and Nigeria remain the global competition?
3. Are the deposit money banks in Ghana and Nigeria coping adequately in this era of global competition?

1.4 Objectives of the Study

The broad objective of the study is to determine the impact of cash management on the going concern of business organisations in the Ghana and Nigeria. This broad objective is further broken down into the following specific objectives:

1. To examine the significant difference between the trend and pattern of change in the Altman's Z-score of banks in Ghana and Nigeria consequent upon cash management.
2. To examine the difference between the trend and pattern of change in the Altman's Z- score of manufacturing companies in Ghana and Nigeria consequent upon cash management.

1.5 Research Hypotheses

In order to achieve the above specific objectives, the following propositions will be tested empirically:

Hypothesis 1

H₀: There is no significant difference between trends and pattern of change in the Altman's Z-score of Banks in Ghana and Nigeria;

Hypothesis 2

H_0 : There is no significant difference between trends and pattern of change in the Altman's Z-score of manufacturing companies in Ghana and Nigeria.

1.6 Significance of the Study

This study is unique in that it is about the first cash management research work that will be conducted on Ghana and Nigeria. It will also benefit;

1.7. Significance of the study

- i. Authorities in Ghana and Nigeria may compare notes for healthy competition.
- ii. Stakeholders in emerging economics such as World Bank and International Monetary Fund (IMF) may find the work reliable in refining their policies for the sake of global posterity.
- iii. The going-concern status of the real sector (manufacturing) and that of the financial sector can determine the fate of an economy.

2.1 Theoretical Literature

Cash as a measure of affluence, a determinant of an individual's position in society, is an instant measure of prosperity. Cash is also a measure of one's seriousness about life and can conjure respect and cause an entity to receive listening ear(s).

Cash, as a measure of affluence can bring joy and earn an individual a voice even in the committee of nations. If today's joy is not to become tomorrow's sorrow, cash must be prudently managed. If the well- clothed, housed and fed are not to be the paupers of tomorrow, cash must be prudently managed.

2.1.1 Cash Management Concept

According to Moyer et al (2002) cash is the sum of currency an individual or company has on hand and/or the funds on deposit in the bank accounts. Cash is a medium of exchange that permits management to carry on the various functions of the business organization. The survival of a company can only depend on the availability of cash to meet financial obligations on time. Effective cash management is important in contemporary companies, government agencies, and not-for-profit enterprises.

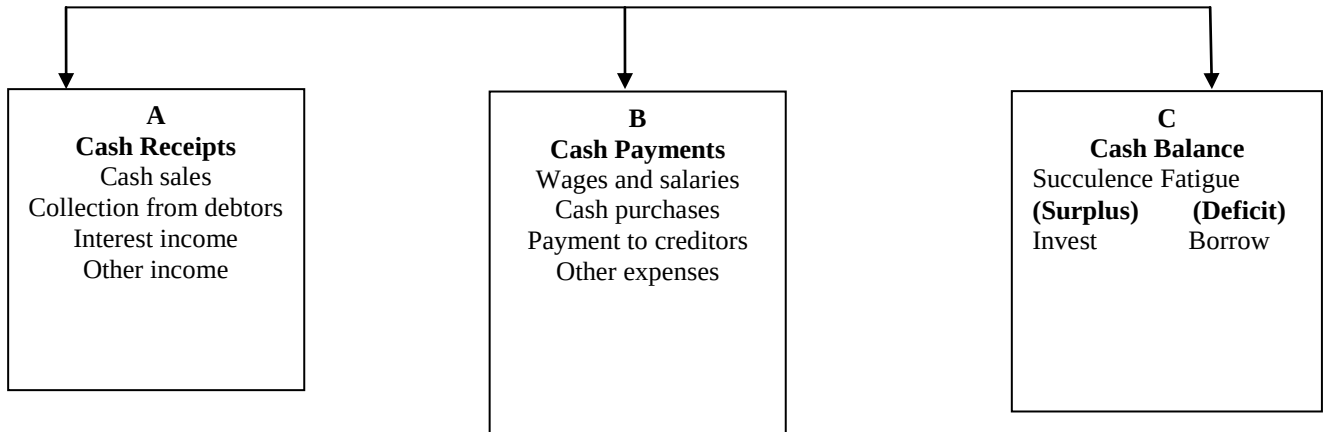
2.1.2 Optimum Cash Levels

Cash succulence and cash fatigue can occur in any enterprise. These are polar situations. Cash as a means of exchange requires to be managed prudently. Prudence requires that this asset at hand, at any moment, must lie between these two extremes.

These polar situations, rationally, must differ from industry to industry. The quantum of cash and other readily convertible to cash assets at hand may enhance or jeopardise the continuity of a firm. Traditionally, businesses have believed that profits indicate success. While this is true, many are now starting to realize that there is something more fundamental to their survival; and that is 'cash', and this holds true for every business irrespective of its size. The objective is to minimize the sum of the fixed costs of transactions and the opportunity cost of holding cash balances. Efficient Cash Management is therefore indispensable. A firm may be cash succulent or may experience cash fatigue. In between these

extremes is the state of optimal cash level. Thus, understanding why the organizations have the need to keep cash resources is essential for their survival.

Figure 1: Elements of Cash Management

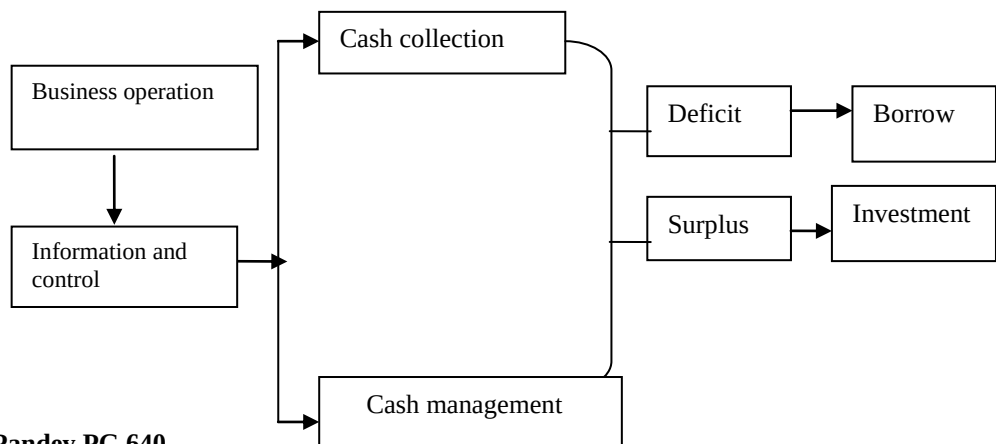


Source Ben (2012)

* Note: $C=A-B$; and Where $(A>B)$ = succulence (surplus) & $(A<B)$ = fatigue (deficit).

According to Pandey (2008), sales generate cash, which has to be disbursed out. Surplus cash has to be invested while the deficit has to be covered through borrowing. Thus cash management seeks to accomplish two cycles at minimum costs and at the same time to achieve liquidity and control.

Figure 2 Cash Management Cycle



Source: I.M. Pandey PG 640

2.1.3 Cash Succulence / Investing Idle Cash

According to Pandey (2008), if a firm has a temporary cash surplus, it can invest in short-term marketable securities. The market for short-term financial assets is called the money market. The maturity of short-term financial assets that trade in the money market is one year or less.

Most large firms manage their own short-term financial assets, transacting through banks and dealers. Some large firms and many small firms use money market funds. These are funds that invest in short-term financial assets for a management fee. The management fee is compensation for the professional expertise and diversification provided by the fund manager.

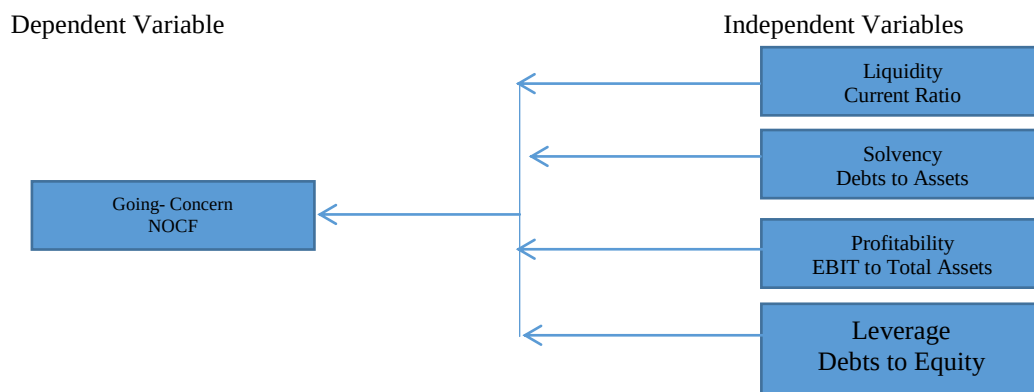
Firms have temporary cash surpluses for these reasons: to help finance seasonal or cyclical activities of the firm, to help finance planned expenditures of the firm, and to provide for unanticipated contingencies.

2.1.4. Cash Fatigue

According to Moyer et al (2002) in case of temporary shortage of cash, a concern is required to procure essential cash immediately for the anticipated short duration, so as to curb it at the very stage instead of sustaining the long-term implication later on. 'The immediate source to fall back upon remains the bank credit. In fact, bank credit is a means to meet cash shortages as well as source of financing the current assets. The various methods from which a firm can procure funds during the period when its outflows exceed the inflows include; using bank credit line, raising loans from institutions and creditors other than banks, Liquidity marketable securities, resorting to bills discounting schemes, disposing off surplus fixed assets, reducing the quantity of raw materials, unloading finished goods even at loss, delaying payments.

2.1.5 Financing Cash Fatigue

The matters of special consideration that can be gainfully employed by the firm for overpowering the situation of cash shortage are; reduction in purchase of inventories, increasing cash sales, selling-off redundant assets, selling short-term investments, deferment of capital expenditure, postponing and delaying payments Moyer et al (2002).



2.2.1 Cash Management

Cash management theory is concerned with the managing of cash flows into and out of the firm; cash flows within the firm and cash balances held by the firm at a point of time by financing deficit or investment surplus cash. Short-term management of corporate cash balances is a major concern of every firm. An imbalance between cash inflows and outflows would mean failure of cash management function of the firm. Persistence of such an imbalance may cause financial distress to the firm and hence, business failure (Aziz & Dar, 2006).

2.2.1 Financial Theory Approach to Cash Management.

Financial theory considers the cash management problem in the framework of the evaluation and capital structure of a firm. It suggested that, cash management as a representative for the liquidity management, can be linked to financial theory by considering its importance in an imperfect market. According to the theory, this can be done, by adding cash balances to the financial theoretic models, such as the Capital Asset Pricing Model (CAPM) or the Modigliani-Miller (M&M) model. The effects of the inclusion of cash balances in these theoretical models show the importance of liquid assets for the value of a firm (through the systematic risk component) and for the optimal capital structure (through the liquidity slack concept) Kytonen (2002).

2.2.1.5 Production Function Approach to Cash Management

Friedman (1959) states that firms hold cash as a productive resource and that cash balances are analogous to fixed capital rather than to inventories. According to Nadiri (1969), real cash balances serve as productive inputs. Like any other capital investment, an increase in cash balances results in a decrease in cash flow, and vice versa. They are part of the working capital of the firm facilitating its productive process, often by indirect means, such as hedging against changes in the prices of capital, labour and the interest rate. Holding adequate cash balances may reduce the uncertainty of meeting current payments, thus avoiding unnecessary and unprofitable liquidation of other assets. Given that management maximizes the present value of real cash flows, the basic determinants of a cash management function can be derived (see e.g. Nadiri 1969 and Coates 1976).

2.2.1.6 Wealth Theory Approach to Cash Management

Meltzer (1963b) hypothesizes that the amount of cash held by firms is a function of the market rate of interest and wealth as follows: $M = k r^\alpha W^\beta$ (2.6) where M is cash, the sum of currency and demand deposits of the public, r is the market rate of interest and W is the net wealth of the public.

Meltzer defined wealth as the firm's total assets. He argued that the amount of cash held is subject to a wealth constraint as well as being dependent upon the yield of a variety of alternative assets (r is a proxy for these returns). However, he used sales as a proxy for the firm's wealth. He assumed that the sales of the i th firm in the j th industry are equal to $S_{ij} = K_{ij} p_j W_{ij}$, where K is a measure of the capital/labour ratio and of the intensity of capital use and p_j is the internal rate of return. Both of these latter variables were assumed to be constant for all firms in the same industry.

2.2.1.7 Entropy Theory Approach to Cash Management

According to the Entropy Theory (Statement of Financial Statement Decomposition Measure Theory), a way to identify firms' financial distress could be a careful look at the changes occurring in their statements of financial position (Aziz & Dar, 2006). This theory employs the Univariate Analysis (UA) and Multiple Discriminant Analysis (MDA) in examining changes in the structure of balance sheets. Univariate Analysis is the use of accounting based ratios or market indicators for the distress risk assessment (Natalia, 2007). The financial ratios of each company, therefore, are compared once at a time and the distinction of those companies through a single ratio with a cut – off value is used to classify a company as either distressed or non- distressed (Monti & Moriano, 2010). MDA (or Multivariate Statistic or Multivariate analysis) is a statistical analysis in which more than one variable are analyzed at the same time (Slotemaker, 2008). The aim of MDA is to eliminate the weakness of univariate analysis.

3.1 Methodology

This section states the research design, the population and sample size of the study.

3.2 Study Population.

All the manufacturing companies and deposit money banks in Ghana and Nigerian should normally be included in the sample. However, only those companies that have up-to-date data are included in the sample.

3.3 The Study Research Design

The research is analytical in nature and it is based on secondary data mainly acquired from the published financial statements of the companies under study. Altman discriminant analysis model is used to predict the financial health of selected manufacturing companies and deposit money banks in Ghana and Nigeria between 2010 and 2014. Descriptive statistics; ANOVA; SPSS .and Excel are used in the work.

3.4 Data Analysis Techniques

There are various financial ratios available to predict threat to going-concern status or insolvency or sickness of a unit. In a business concern, different ratios have different significance and making a common interpretation from these independent financial ratios pertinent to going-concern threat prediction is a bit difficult. This research work adopts a Multiple Discriminant Analysis (MDA) based on four variables that form the model (Z-Score). The derived equation of Z-Score is dependent on Discriminant coefficient computed by MDA and actual values of independent variables i.e. financial ratios calculated from annual financial statements of the company. The Altman's Z-Score model is as follows;

$$Z = 6.56x_1 + 3.26x_2 + 6.72x_3 + 1.05x_4.$$

Where: x_1 = Liquidity Ratio = Current Asset / Current Liabilities,

x_2 = Solvency Ratio = Total Liabilities / Total Assets,

x_3 = Profitability = Earnings Before Interest and Tax / Total Assets

x_4 = Leverage = Total Liabilities / Shareholders' Fund.

The discriminant coefficient calculated from MDA for different independent variables are as follows;

Z-Score >2.6	No threat to going-concern, safe zone
1.1<Z-Score< 2.6	Financial Position is distressing, going-concern threat
Z-Score < 1.1	loss of going-concern status (bankruptcy or Liquidation)

4.1 Data Presentation, Analysis and Discussion

4.2 Data and Source

This study is based mainly on secondary data obtained from the databases of the financial statements of selected entities.

4.3 Analysis and Discussion

Table 4.1

Descriptive Statistics of Trends and Pattern of Change in Ghana and Nigeria Deposit Money Banks.

GHANA						NIGERIA					
Variables	Liquidity	Solvency	Profitability	Leverage	Altman's Z-Score		Liquidity	Solvency	Profitability	Leverage	Altman's Z-Score
Mean	1.0913	0.8580	0.0473	5.0793	15.6076	Mean	1.0967	0.7948	0.0360	6.8600	17.2301
Minimum	0.95	0.78	0.02	0.91	19.60		0.99	0.01	-0.14	3.00	21.49
Maximum	1.25	0.91	0.08	9.65	10.42		1.42	0.92	0.37	12.01	14.86

Interpretation

Hypothesis 1-the descriptive statistics of the trends and pattern of change in the Altman's Z- Score of the selected bank is uniform with 15.6076 for Ghana and 17.2301 for Nigeria – the null hypothesis is accepted.

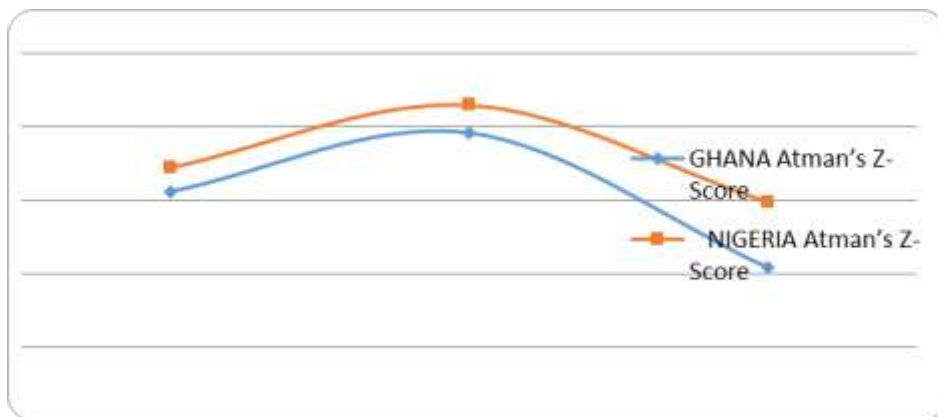
According to figure 4, the going- concern of Ghana and Nigeria deposit money banks were steadily healthy and safe. However, they both showed greater promise of continuity.

SPSS Result of One-Way ANOVA of the Descriptive Statistics of the Trends and Pattern of Change of Ghana and Nigeria Banks.

Interpretation

Hypothesis 1: Leverage -According to table 4.2 SPSS result of One –Way ANOVA of the descriptive statistics of leverage ratio of deposit money banks of sampled countries is not uniform as Ghana had 6.483 and Nigeria had 1.337. Therefore, we reject the null hypothesis.

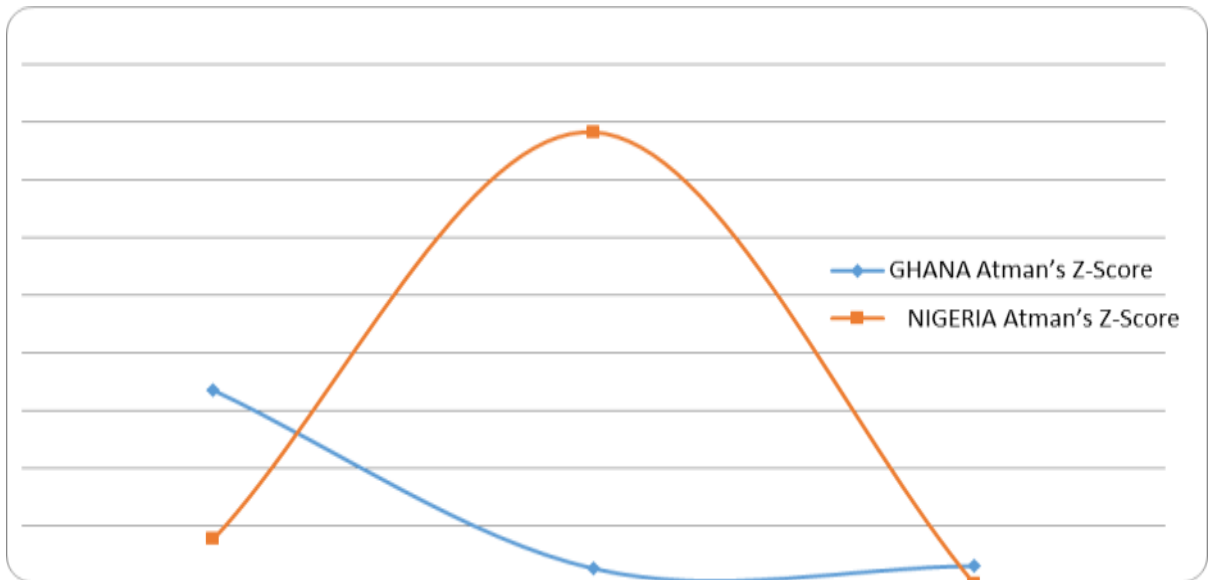
Figure 4.1: Descriptive Statistic of Trend and Pattern of Change between Ghana and Nigeria Deposit Money Banks.



Inference

GHANA						NIGERIA					
Variables	Liquidity	Solvency	Profitability	Leverage	Atman's Z-Score	Variables	Liquidity	Solvency	Profitability	Leverage	Atman's Z-Score
Mean of square	0.155	0.025	0.003	76.922	6.694	Mean of square	0.148	0.687	0.146	96.921	1.537
F	78.313	32.242	1.265	0.224	0.521	F	3.255	0.335	2.180	25.112	15.670
Sig	0.000	0.000	0.317	0.803	0.607	Sig	0.74	0.722	0.156	0.000	0.000

Figure 4.2: SPSS Result of One-Way ANOVA of the Descriptive Statistics of the Trends and Pattern of Change of GHANA and NIGERIAN Banks.



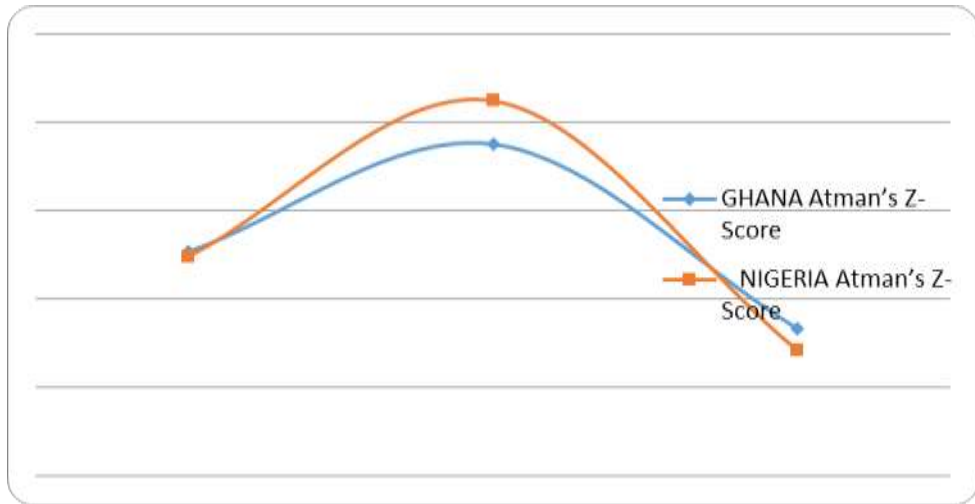
Inference

According to figure 5, the going- concern of Nigeria deposit money banks were increasingly certain, steady and remained safe. However, Ghanaian deposit money banks showed a greater loss of continuity promise.

Table 4.3: Descriptive Statistic of Trend and Pattern of Change between Ethiopia and Kenya Manufacturing Companies.

GHANA						NIGERIA				
	Liquidity	Solven cy	Profita bility	Levera ge	Atman's Z- Score	Liquidity	Solvenc y	Profita bility	Levera ge	Atman' s Z- Score

Mean	1.3400	0.5200	0.1060	1.4393	12.7092	1.0887	0.6680	0.1967	1.7140	12.4406
Minimum	0.33	0.33	0.00	0.66	18.81	0.59	0.33	0.10	0.50	21.26
Maximum	2.42	0.78	0.28	3.47	8.35	2.73	1.77	0.28	5.11	7.12



Interpretation

Hypothesis 2: Atman's Z-Score - the descriptive statistics of the trends and pattern of change in the Atman's Z-Score of the selected bank is uniform with 12.7092 for Ghana and 12.4406 for Nigeria – the null hypothesis is accepted.

Figure 5: Descriptive Statistic of Trend and Pattern of Change between GHANA and NIGERIA Manufacturing Companies

Inference

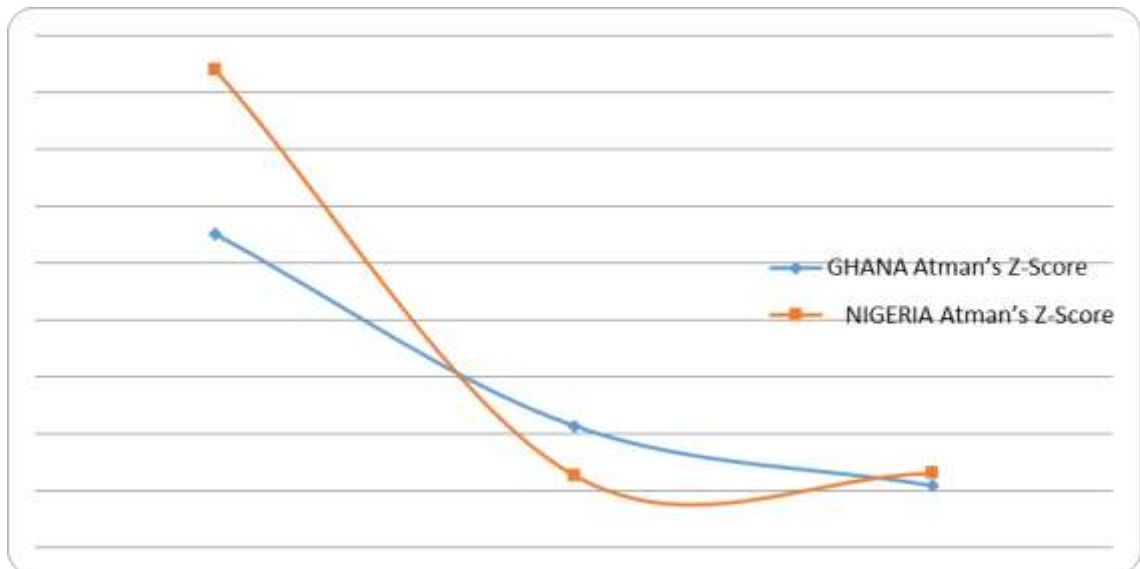
The going- concern of Ghana and Nigeria manufacturing companies were increasingly steady and safe throughout the study period.

GHANA						NIGERIA					
VARIABLES	Liquidity	Solvency	Profitability	Leverage	Atman's Z-Score	VARIABLES	Liquidity	Solvency	Profitability	Leverage	Atman's Z-Score
Mean of square	5.356	0.218	0.115	0.601	9.006	Mean of square	4.980	1.634	0.146	23.252	14.798
F	2.278	0.566	3.028	4.131	2.256	F	3.261	1.920	2.180	12.567	0.540
Sig.	0.145	0.582	0.086	0.043	0.147	Sig.	0.74	0.189	0.156	0.001	0.596

Interpretations

Hypothesis 2: Atman's Z-Score - table 4.2 SPSS result of One –Way ANOVA of the change in the Atman's Z-Score of the selected banks is uniform with 2.256 for Ghana and 0.540 for Nigeria – the null hypothesis is accepted.

Figure 6: SPSS Result of One-Way ANOVA of the Descriptive Statistics of the Trends and Pattern of Change of GHANA and NIGERIA Manufacturing Companies.



Inference

According to figure 6, the going- concern of Ghana manufacturing companies were increasingly certain throughout the period under review. However, Nigeria manufacturing companies are distressed.

5.1 Summary of Findings

The going-concern status of manufacturing companies in Ghana and that of deposit money banks in

Nigeria are sound consequent upon cash management. On the other hand, the manufacturing companies in Nigeria and the deposit money banks in Ghana are low on continuity consequent upon cash management.

5.2 Conclusion

A country should not wait until an adversity occurring in a neighbouring country has crept in to wreak havoc. What concerns our neighbour should also be our concern. Corporate distress is a major concern in developing countries.

This comparative study of the manufacturing sectors (real sectors) and the financial sectors of two prominent West African countries (Ghana and Nigeria), two rapidly growing economies in Africa, provide a needed integral to an envisaged model of economic appraisal for sub-Saharan Africa. Economic appraisal of Sub-Saharan Africa is, indeed, our next research endeavour.

5.3 Recommendation

We recommend regular appraisal of the continuity strength of quoted firms especially those in the manufacturing sectors and banking sectors of Ghana and Nigeria.

References

- Ang, S.A. (1991). The corporate-slack controversy in *Advances in Working Capital Management*, Kim, Y.H. and V. Srinivasan, ed., Jai Press, Inc.
- Armstrong, J. & Caldwell, G. (2008). Liquidity Risk at Banks: Trends and Lessons Learned from the Recent Turmoil. URL: <http://www.bankofcanada.ca/wp>
- Aziz, M. & Dar, H. (2006). Predicting Corporate Financial Distress: Whither Do We Stand? *Corporate governance*, 6(1), 18-33.
- Ben Ebo Attom (2012). Cash management practices by micro and small-scale enterprises at kasoia in the central region of Ghana'. *Asian Journal of Business and Management Sciences* ISSN: 2047-2528 Vol. 3 No. 02 [01-12]

- Bhattacharya, A.K. & Gallinger, G.W. (1991). Value, capital structure, and liquidity: a simulation.
- Coates, R.C. (1976). The Demand for Money by Firms. Marcel Dekker Inc., New York.
- Dittmar, A., Mahrt-Smith J., & Servaes, H. (2003). International corporate governance and corporate cash holdings. *Journal of Financial and Quantitative Analysis*. 38:1, 111-133.
- Gomes, T. and N. Khan. (2011). "Strengthening Bank Management of Liquidity Risk: The Basel III Liquidity Standards." *Bank of Canada Financial System Review* (December): 35–42.
- Jensen, M.C. 1986. Agency costs of free cash flow, corporate finance, and takeovers. *American Economic Review*. 76:2, 323-330.
- Monti, E.N. & Moriano, G, R. (2010). A Statistical Analysis to Predict Financial Distress. *Journal Service & Management*, 45(2), 20-25.
- Moyer, R.C, Maguigan, J. R. & Kretlow, W.J (2002). *Contemporary Financial Management*. Ohio: South Western Publishing
- Nadiri, M.I. 1969. The determinants of real cash balances in the U.S. total manufacturing sector. *Quarterly Journal of Economics*. (May), 173-196.
- Natalia, O. (2007). *Corporate Financial Distress: An Empirical Analysis of Distress Risk* (Doctoral Dissertation No. 3430, University of St. Gallen, St. Gallen, Switzerland).
- Opler, T., L. Pinkowitz, R. Stulz, and R. Williamson (1999). The determinants and implications of corporate cash holdings. *Journal of Financial Economics*. 52:1, 3-46.
- Pandey, I.M. (2008). *Financial Management* 7th Edition Delhi: Ram Pinto graph
- Shin, H-H. & Soenen, L.A. (1998). Efficiency of working Capital Management and Corporate profitability. *Financial Practice & Education*. 8:2, 37-45.
- Shin, H-H. & Soenen, L.A. (2000). Liquidity Management or Profitability – is there room for both? *Afp Exchange*. 20:2, 46-49.
- Slotemaker, R. (2008). *Prediction of Corporate Bankruptcy of Private Firms in the Netherlands* (A Master's Thesis, Erasmus University, Rotterdam, Netherlands)