Nexus Of Liquidity Management And Corporate Business Failures In Non –Financial Sectors' A Case Of Nigeria

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***Abstract*—This paper examined the imperativeness of liquidity management – a key survival strategy of listed companies on the Nigeria Stock Exchange Markets and retrospectively assessed the salient variables on delisted corporate firms in Nigeria. Data were randomly collected from ten companies each from 114 listed and 82 delisted companies on the Nigeria stock exchange market records from January 2016 to 31st December, 2018 - healthy listed companies and 2006 -2008 for delisted records of failed companies. In all, twenty companies were analysed with two-tailed test using a significance level of 0.05 to test the possibility of the relationships, The existence of a positive relationship between liquidity management and profitability of corporate firms in Nigeria were established as the result of the study showed that adequate liquidity management spurs rapid cash growth, effective operating activities and profit making propensity of corporate healthy businesses which invariably were lacking in the delisted companies and resulted into eventual failure. Also, a higher cash flow from operations reduce the chance of a firm growing resulting into eventual liquidation. Cash flow from investing activities is however seen as a factor that exert a positive influence generally on corporate businesses in Nigeria. The study concluded that ill management of business liquidity is the major cause of failure of corporate businesses in developing economy and as such cash flow from operations, investments and financing activities of a firm should be adequately monitored by the company managers, investors, creditors and suppliers and even the government to forestall financial distress of companies in developing economy.**

***Index Terms*— Delisted company, Corporate Business, Healthy companies, Cash-outflow upper limit.**

I. Introduction

Generally, in every businesses, large or small, cash is not only an essential element for a successful business operations but also a crucial requirement for survival and continuity in business. Cash is the most liquid asset a company can hold and a company's cash flows provides information about the cash receipts and payments of the business. Cash flows are therefore considered a good signal of a company's liquidity position. The value of cash flow information is that it can be used to assess the quality of earnings, financial flexibility and assists in forecasting cash flows. Cash flow information is also a better indication of the liquidity of an entity, because cash is the most relevant measure of a company's liquidity.

Cash flow ratios are used as a liquidity measure, prediction of a company's financial fortune or ultimately bankruptcy. Therefore, an early warning of possible financial distress can ultimately help to prevent subsequent financial failure. Traditionally, financial analysis, for a long time, depended on accounting performance via profitability measures, liquidity management such as return on assets and net sales to income, among others. These forms of ratios, however, are affected by the fundamental drawbacks that are characteristics of 'accrual based accounting' (Albrecht, 2003). Cash flow information can also be useful by complementing the information already provided by accrual accounting. A set of cash flow ratios, if used in conjunction with traditional statement of financial position and income statement ratios, can be valuable in determining the financial strengths and weaknesses of an entity (Carslaw & Mills, 1991).

Previous studies such as Oluwakayode (2012), Mbat and Eyo (2013), Gounopolos and polemis (2012), Bhunia, Khan and Mukhuti (2011), Etale and Bingilar (2016) and Akinwunmi, Essien and Adegboyega (2017) have focused separately on liquidity and corporate failure/bankruptcy, Fadare (2011), Ibe (2013), Maishanu (2010), Tamunosiki, Baribefe, Obari (2017), Adeyeye and Oloyede (2014) Ezejiofor, Nzwei and Okoye (2014) focused on banks and other financial institutions but little has been done in the area of how cash flow deficiency predicts fortune or bankruptcy of entities in non-financial sectors of Nigeria economy by looking at how cash flow deficiency can possibly predict corporate failure.

II. Theoretical Framework

Cash flow is an index of monies actually received (cash inflow) or paid out (cash outflow) by an individual, firm or a corporate body during a specific defined period of time from business operations. Cash flow index is not inclusive of non-cash accounting flows such as depreciation, goodwill and other related non cash flows. Cash flow of a company is a crucial factor that enhances its operations. According to Efobi (2008), as a result of the relevance of cash flows in the company's operations and performance, corporate organizations need to develop a suitable cash flow mix and apply it in order to maximize shareholders values. Uremadu (2004) views cash flows of an organization as those pool of funds that the company commits to its fixed assets, inventories, account receivables and marketable securities that lead to corporate profit. For the cash flows to be well structured and effectively utilized, a business firm must be able to devise various ways for selecting the best components of its cash flows which would be used in the company's operation to raise its productivity and boost its performance.

Management of cash is a process based on the criteria well drawn up by the finance manager after making a careful financial planning and control for the company. Cash represents the firm's vascular system, if it dwindles, the business will not survive. Firm's profitability does not mean

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liquidity. The solvency, liquidity, flexibility and the financial performance of the firm are set on the firm's ability to generate positive cash flows from the operating, investing and financing activities (Turcas, 2011). Cash flows represent all inputs and outputs liquidities and cash equivalents. According to IAS 7, liquidities represent cash on hand and demand deposits. Cash equivalents are short-term investments with a liquidity degree that can be easily converted into cash with an insignificant risk of value change. According to Adelegan (2003), cash flows are a more direct measure of liquidity and a contributing factor in corporate performance. Cash flow information assists its financial statement users in obtaining the relevant information concerning the use of resources of virtually the entire financial resources over a given time period (Ross, et al 2007). An important measure of the overall financial health of a company is the level of cash it generates through normal business operations. As a company operates, cash flows into the business as income and out as expenses. Thus, cash flows are essential to the business and determine the ability of a company to generate profits and continue its operations. Financial statements management is an intrinsic part of financial management which translate the financial activity of the enterprise into a more or less objective set of numbers, which provide valuable information about the firm's performance and about its possible problems and its potential in the future.

According to Miller-Orrmodel, cash holding limit is often decided by a corporate company's Management. This model appreciates the fact that the cash flows are uncertain. Mullins and Richard (1998) explain that the advantage of this model is that it can be adjusted for seasonal trends through designing of cash flow distribution which is a vital liquidity management strategy of surviving companies and which was what was lacking in the activities of failed corporate companies in Nigeria. The relevance of this model is that it assumes that firms set a lower limit on cash holdings based on the likelihood of cash short fall and the willingness of a firm to tolerate the risk of a short fall. However, the upper limit is set by applying the model.

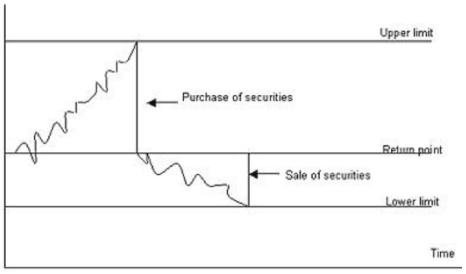

Fig. 1. Cash movement between the two limits.

According to Maness and Zietlow (1993) if a firm cash flows wander and touch the lower limit, it sells sufficient marketable securities to bring the cash balance back to the normal level that is the return point. To determine the distance between the upper and the lower limits (called Z), it depends on the following factors namely: the transaction costs (c); the interest rate, (i); and the standard deviation (s) of net cash flow. The formula for calculating the distance between the upper and lower control limits is (called Z) is as: Upper Limit = Lower Limit + 3Z and the Return Point = Lower Limit + Z. The net effect is that the firms hold the average cash balance equal to: Average Cash Balance = Lower Limit +4/3Z.

A. Corporate Failure

Corporate Failure has been used interchangeably by many researchers with other terms like financial distress, liquidation, insolvency and bankruptcy, persistent loss and winding up. According to Altman (1968), failure is when a company does not earn enough return on risk capital and such a company can go on doing this for a long time without winding up and still be able to meet its current obligations. Insolvency is a more descriptive word than failure, it is a just a temporary situation, which arises when the company cannot pay its bills when they fall due. Insolvency is more serious when it leads to bankruptcy i.e. when the firm's liabilities exceed its assets at fair value, this means that bankruptcy occurs when the company has a negative net worth. In a literal sense, failure is the inability of a concern to achieve its primary objective of profit making in the long run and which is a precondition to be shortlisted for delisting on the Nigeria Stock Exchange Markets.

Financial distress or failure is a situation that arises when the revenues generated by the company are insufficient to repay its debts in a timely manner, as originally promised to its creditors. John (1993) stated that a firm is in financial distress at a given point in time when the liquid assets of the firm are not sufficient to meet the current liquidity requirements. This is evident from the overwhelming distress that plagued some sectors (particularly the banking sector) of the Nigerian Economy in the 1990s. The implication of business failure is a very large one and affects all stakeholders negatively.

B. Theories of Business Failure

Various theories has explained why a corporate business that are listed on the stock markets failed and eventually experience been delisted on the stock exchange markets all over the world. Sheikh and Wang (2010) stated that Trade Off theory expected to choose a target capital structure that maximizes the firm value by minimizing the costs of prevailing market imperfections. It assumed each source of money has its own cost and return and these are associated with the firm's earning capacity and its business and insolvency risks (Awan & Amin, 2014). According to trade-off theory, like debt, cash holding also generates cost and benefit. Under static trade off theory a firm's target leverage is driven by three competing forces and cash is required for those forces: taxes, agency costs and bankruptcy cost. Bankruptcy cost is a cost directly incurred when the perceived probability that the firm will default on financing is greater than zero. One of the bankruptcy costs is liquidation cost, which represents the loss of value as a result of liquidating the net assets of the firm. Another bankruptcy cost is distress cost, which is the cost a firm incurs if stakeholders believe that the firm will discontinue. Furthermore, financial distress & agency cost theories also assumed that higher debts bring financial distress and eventually bankrupt a firm or force it to go into liquidation or restructuring (Awan & Amin, 2014).

C. Keynes Liquidity Preference Theory (Demand for money)

Keynes (1936) in his study "The general Theory of employment, interest and money" identified three reasons why liquidity is important; the transaction motive, the precaution motive and the speculative motive. Liquidity preference means the demand for money to hold or the desire of the public to hold cash. The transaction motive is the need to have cash on hand to pay bills. Transactions related needs come from collection activities of the firm. The disbursement of cash includes the payment of wages and salaries, trade debts, taxes and dividends. This demand depends upon many factors while speculative motive highlights the relationship between demand for cash and interest rates. Unlike the other two motives discussed, the speculative motive is interest elastic. People under speculative motive hold money in order to secure profit from the future speculation of the bond market. The speculative motive refers to investors' general reluctance to commit to tying up investment capital in the present for fear of missing out on a better opportunity in the future when interest rates are low, demand for cash is high as individuals prefer to use the cash or hold onto it until interest rates rise, thus liquidity preference will be more at lower interest rates. Cash flows and liquidity has been identified over the years as a good indicator of business health and predicting failure of a business. Failing firms tend to experience a shortfall in inflows from operations which forces a reduction in dividend payments (Gentry, Newbold & Whitford, 1995).

D. Measurement of Liquidity of Corporate Organization and Failure Symptoms

Cash flow condition is usually measured by financial ratios some of which include cash to current liabilities ratio, cash to total liabilities ratio, cash to total assets ratio and cash flow to sales ratios. The higher the measures, the higher the adequacy of cash flows and the company is more capable of generating cash flows from the assets. Gentry, Newbold & Whitford (1995) found that the addition of cash-based funds flow components to the traditional financial ratios used to discriminate between failed and non-failed companies results in significantly improved predictive performance. Thus these four parameters were measured on ten healthy companies and retrospectively measured on selected delisted companies in similar industries.

Operating cash flow divided by current liabilities (OCF/CL): This ratio measures a firm's liquidity by comparing actual cash flow with the short-term obligations. It shows whether cash flow from operations is sufficient in meeting short term liabilities. The higher the value of the ratio, the lower the risk of business failure. Wild et al. (1998, 2001), Mills and Yamamura (1998), Figlewicz and Zeller (1991), Dennis (1994) recommend this ratio as a measure of firm's ability to pay short-term liabilities.

Cash flow interest coverage ratio (OCF +INT+ Tax/INT): The interest includes both short- and long-term interest. This ratio measures a firm's ability to meet interest obligations with debt. The higher the value of this ratio the lesser the chance of default on interest payment by a firm. Carslaw and Mills (1991), Stickney and Brown (1999), Mills and Yamamura (1998), and Fraser and Ormiston (2001) have recommended this ratio for evaluating a firm's financial strength.

Operating cash flow margin (OCF/Net Sales): This ratio is similar to traditional profit margin ratio. It measures the ability of a firm to translate sales into cash. Operating cash flow return on total assets (OCF/Total Assets): This ratio is similar to return on assets (ROA) but instead of net income, cash flow from operation is used as the numerator.

Operating cash flow to net income (OCF/Net Income): This ratio measures the collectivity of net income, indicates by percentage of net income converted into cash. Schmidgall et al. (1993), Ryu and Jang (2004), Jooste (2007), Ibarra (2009), and Kajananthan and Velnampy (2014) used this ratio in previous studies.

Investing cash flow to total liabilities (ICF/Total Liabilities): This ratio measures ability of cash from investing activities to meet all obligations in the long run as at when they fall due. Low et al. (2001) used this ratio in his study.

III. Data Analysis and Findings

This study employs the stratified and random sampling technique to select a sample size of ten (10) healthy/non-failing listed companies between 2016 -2018 and ten (10) distressed/failing delisted firms between 2006 -2008. Base on the above scenarios all listed and delisted companies were identified before picking the selected samples.

TABLE I: Selected Listed Companies & Delisted Companies.

Total listed companies	170	Total delisted companies	98
Listed Companies in the financial sector	(56)	Delisted Companies in the financial sector	(16)
Population	114	Population	82

Source: Researcher's Compilation, 2019

In Dangote cement, cash flow to current liabilities ratios are high throughout the three years while the result in the delisted Ashakacem cement were very low and possibly unmanageable.

For Vita Foam, the cash flow to current liabilities ratio is positive for the first 2 years but negative in the last year. This is also the case with the cash flow margin ratio. However, the cash flow to current liabilities ratio for Vono

TABLE II: SELECTED LISTED & DELISTED COMPANIES ON NSE MARKETS, 2016 -2018/ 2006-2008.

S/NO	Coy's Name	Year	OCF/CL	OCF/NS	ICF/TL	OCF/IN	Coy's Name	Year	OCF/CL	OCF/NS	ICF/TL	OCF/IN
1	DANGOTE CEMENT	2016	0.95	0.53	-0.50	10.6	ASHAKACEM CEMENT	2006	0.27	0.10	0.08	3.27
		2017	1.77	0.64	-0.35	9.65		2007	-0.16	-0.07	-0.10	-6.9
		2018	0.60	0.55	-0.15	8.12		2008	0.33	0.18	-0.19	1.6
2	VITA FOAM	2016	0.3	0.12	0.07	4.1	Vono Products.	2006	0.6	0.01	-0.00	2.03
		2017	0.1	0.06	-0.05	2.5		2007	-0.04	-0.04	-0.00	-0.14
		2018	-0.2	-0.1	-0.04	-0.8		2008	0.02	0.02	-0.00	1.79
3	CUTIX	2016	0.18	0.1	-0.5	4.6	NIGERIAN ROPES	2006	-0.2	-0.5	-0.03	-3.8
		2017	0.24	0.1	-0.2	3.5		2007	0.2	0.27	-0.01	3.6
		2018	0.85	0.2	-0.02	6.3		2008	0.1	0.3	-0.01	2.5
4	PREMIER PAINTS	2016	0.07	0.03	-0.02	2.0	PAINTS AND COATINGS	2006	0.06	0.03	-0.01	12.9
		2017	0.11	0.10	-0.01	2.3		2007	0.56	0.09	-0.09	19.6
		2018	0.07	0.06	-0.02	1.7		2008	0.20	0.04	-0.09	14.8
5	AG Leventist PLC	2016	0.24	0.1	-0.2	3.5	CFOA	2006	0.1	0.3	-0.01	2.5
		2017	0.85	0.2	-0.02	6.3		2007	0.06	0.03	-0.01	12.9
		2018	0.07	0.03	-0.02	2.0		2008	0.05	0.09	-0.09	11.6
6	Accademy Press	2016	0.07	0.03	-0.02	2.0	DUMEZ Nig. Plc	2006	0.20	0.04	-0.09	14.8
		2017	0.11	0.10	-0.01	2.3		2007	0.1	0.3	-0.01	2.5
		2018	0.07	0.06	-0.02	1.7		2008	0.56	0.09	-0.09	19.6
7	Afromedial Plc	2016	0.24	0.1	-0.2	3.5	ATLASS Nig, Plc	2006	0.20	0.04	-0.09	14.8
		2017	0.85	0.2	-0.02	6.3		2007	0.1	0.30	-0.01	2.5
		2018	0.07	0.03	-0.02	2.0		2008	0.20	0.04	-0.09	14.8
8	ARBISCO Plc	2016	0.07	0.03	-0.02	2.0	Ceremics Man. Plc	2006	0.56	0.09	-0.09	19.6
		2017	0.11	0.10	-0.01	2.3		2007	0.20	0.04	-0.09	14.8
		2018	0.07	0.06	-0.02	1.7		2008	0.12	0.31	-0.01	2.5
9	CADBURY Nig. Plc.	2016	0.85	0.2	-0.02	6.3	TATE Ind. Plc	2006	0.56	0.09	-0.09	19.6
		2017	0.07	0.03	-0.02	2.0		2007	0.20	0.04	-0.09	14.8
		2018	0.07	0.03	-0.02	2.0		2008	0.1	0.33	-0.01	2.5
10	ALEX	2016	0.11	0.10	-0.01	2.3	EMPEE Plc	2006	0.52	0.09	-0.09	19.6
		2017	0.07	0.06	-0.02	1.7		2007	0.21	0.03	-0.09	14.8
		2018	0.24	0.1	-0.2	3.5		2008	0.11	0.31	-0.01	2.5

Source: Nigeria Stock Market Activities 2006-2008 & 2016- 2018

products is negative when retrospectively compared.

Cutix is seen to have all positive cash flow from operations to current liabilities ratios increasing significantly from the first to the last year. This result is also consistent with the cash flow margin ratio. Nigerian Ropes has a negative cash flow from operations to current liabilities ratio and in the subsequent years has weak ratios.

This indicates that healthier companies have a higher positive cash flow from operation to current liabilities ratio than companies that are in distress state. This is also consistent with cash flow margin ratio. There is however an unorthodox view with the cash flow from investing to total liabilities ratio since the healthier company has negative ratios while the distressed company has positive and higher

negative ratios in the first two years.

A. Cash Flow Ratio Analysis for listed and delisted firms in Nigeria.

Health Companies: We employ the Pearson correlation coefficient (correlation matrix) and the results are presented:

TABLE III: DESCRIPTIVE STATISTICS

	Z-Score	CFO (N'000)	CFI (N'000)	PROF (%)	D/E (%)
Observations	12	12	12	12	12
Mean	1.83	56910445.25	18216978.42	21.00	-2272.23
Median	2.48	433675.50	73669.50	8.00	133.35
Std. Deviation	1.528	103241740.265	64223395.788	27.299	7398.865
Skewness	-1.313	1.377	1.462	1.674	-3.282
Std. Error of Skewness	.637	.637	.637	.637	.637
Kurtosis	.223	-.065	2.203	1.869	10.990
Std. Error of Kurtosis	1.232	1.232	1.232	1.232	1.232
Probability	0.01	0	0	0	0
Minimum	-1	-1526147	-75879000	2	-25383
Maximum	3	249235000	162124000	86	1210

TABLE IV: CORRELATION MATRIX

	Z-SCORE	CFO	CFI	PROF	D/E
Z-SCORE	1	0.304	0.126	0.221	0.399
CFO		1	0.468	0.952	0.189
CFI			1	0.217	0.097
PROF				1	0.223
D/E					1

Simple multiple regression was estimated in testing the cause-effect relationship between the dependent and independent variables for the healthy companies. The table present the results for the model of the study which focuses on whether cash flow from operating and investing activities, affects company z-score. The independent variables are accompanied by other variables which can significantly influence a firm's overall health and survival.

From the table, the adjusted R-squared value was 0.27. This indicates that all the independent variables jointly explain about 27% of the systematic variations in the Z-score of the models. The remaining 73% is explained by the error term in the model. The table also shows that there is only a 20% chance that the output occurred by chance.

TABLE V: REGRESSION ANALYSES FOR HEALTHY COMPANIES

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	99.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	3.288	.821		4.003	.005	.413	6.162
	CFO (N'000)	6.118E-008	.000	4.133	2.316	.054	.000	.000
	CFI (N'000)	-2.573E-008	.000	-1.081	-1.929	.095	.000	.000
	PROF (%)	-.201	.091	-3.597	-2.207	.063	-.521	.118
	D/E (%)	.000	.000	.528	1.929	.095	.000	.000
	R-Squared 0.537 Adj-R-Squared 0.272 F-Statistic 2.026 Sig. 0.195							

- Dependent Variable: Z-Score
- Predictors: (Constant), D/E (%), CFI (N'000), PROF (%), CFO (N'000)

TABLE VI :Regression Analyses for Distressed Companies

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	99.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.821	.780		3.618	.009	.092	5.549
	CFO (N'000)	-1.729E-006	.000	-.700	-.714	.498	.000	.000
	CFI (N'000)	1.298E-006	.000	.602	.640	.542	.000	.000
	PROF (%)	.157	.043	1.689	3.603	.009	.004	.309
	D/E (%)	-.012	.006	-.974	-2.191	.065	-.032	.007
	R-Squared 0.774 Adj-R-Squared 0.645 F-Statistic 5.987 Sig. 0.020							

- Dependent Variable: Z-Score
- Predictors: (Constant), D/E (%), CFI (N'000), PROF (%), CFO (N'000)

IV. Conclusion and Recommendations

This study has investigated how operating and investing cash flows affect corporate failure prediction of companies in Nigeria. The research showed that higher cash flow from operations increases chance of survival and reduces chances of failure. Cash flow from investing activities showed a significant and positive relationship with Corporate Failure. Profitability and Financial Leverage showed a non-significant positive relationship with corporate failure. Cash flow margin ratio is useful in predicting financial distress of companies. This study therefore concludes that healthier companies are characterized by higher cash flow from operations and as such have lower likelihood of going into corporate fail . Companies in Nigeria should focus on generating sufficient cash flow from operations, evaluate their liquidity regularly. Also investors and other stakeholders should be on the lookout for a company's cash flow from operations before investing.

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