CASH FLOW AND FINANCIAL PERFORMANCE OF INSURANNCE COMPANIES: EMPRIRICAL EVIDENCE FROM NIGERIA

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Abstract

The study examines the relationship between cash flow and financial performance of insurance companies in Nigeria using time series data for the period 2009-2014. Twenty seven (27) listed insurance firms were selected as sample size. The study uses both descriptive and inferential statistics to determine the relationship among the variables. It also employs the series of diagnostic tests to ensure stability of the time series used as well as to ensure the model meets the assumption of OLS. The findings reveal that Cash flow was observed to determine insurance firms' financial performance and is statistically significant. Cash flow from operating activities was observed to significantly increase financial performance of the insurance companies in the period examined. Cash flow from financing activities was found to increase the financial performance of the sampled insurance firms, but was not statistically significant. The size of the insurance company did not increase the financial performance of the insurance firms and was also not statistically significant. The paper recommends that managers in insurance firm should regularly change the extent of the cash outflows under each activity to avoid negative cash flow position as well as financial crisis. Adequate investment appraisal is really a concern that insurance firms need to take into consideration when customers are taking up insurance coverage. The costs have to be weighed against the benefits accruable therefore.

Keywords: *cash flow from operating activities, cash flow from investing activities, cash flow from financing activities, firm size, cash flow, Return on equity.*

1. Introduction

Cash flow is integral to the financial health status of firms. Cash in organization usually takes two direction, inflow and outflow. The difference between these two concepts results in cash flow. The financial manager in organizations takes it a priority to ensure cash outflow does not out- weigh the cash inflow. Net positive cash flow connotes there is prudent management of cash under the three activities in the organization, viz – a – vis operating, investing and financing activities. Different investors usually take a cursory look at each of these activities prior to making investment decision. Similarly, cash flow from each of these activities has a way of influencing the performance of quoted firms for a period. For instance, excess of cash outflow over the inflow may indicate poor expense, debtors, inventory, cash management, weak investment skills/management and inability of the finance managers to critically engage in optimal financing decision for a period. Internally, managers need to know the current financial position of the firm (performance and problems); continuing with problems and control functions (Bodie, Kane & Marcus, 2004). In corroboration with this view, Fabozzi and Markomits (2006) stress that for example, suppliers are interested in the firms' liquidity because their rights are generally on a short – term and in this case the company's ability to pay is best reflected by the liquidity indicators. Bingilar and Oyadonghan (2014) stated that cash flow of a company is a crucial factor that enhances its operations. Uremadu (2004) sees cash flows of an organization as those pools of funds that the company commits to its fixed assets.

As noted by Efobi (2008), the ability of the company to effectively choose adequate source of funds to finance its operations will differentiate strong cash flow governance and

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poorly managed cash flows. Cash flow is an index of the money that is actually received by or paid out by a firm for certain time period (Albrecht, 2003). This index is not inclusive of non – cash accounting changes such as depreciation; cash represents the firm's vascular system; if it dwindles, the business will not survive; the fact that a firm is profitable does not mean that it is also solvent in that the profit is not cash (Bingilar & Oyadenghuan, 2014). Turcas (2011) surmises that the solvency, 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. Knechel, Salterio, Stephen, Ballon and Brian (2007) posit that the information contained on a cash flow statement stresses the existing differences between the operating profits of a firm and on the other hand, the decrease or increase in bank/cash balance over a similar accounting period. They opine further that this is because a cash flow statement shows whether activities of investing have either been financed externally for example, borrowing or internally for example working capital management or generated profits. Cash flow analysis is thought to be more effective in determining enterprises effectiveness and competitiveness in the market because it is a more dynamic examination of actual return on assets and equity (Amuzu, 2010). Cash flow information assists financial statement users in obtaining the relevant information concerning the use and source of virtually the entire financial resources over a given time period. Specifically, the kind of information that the cash flow statement contains include details of operating, investing and financial activities (Shahmoradi, 2002).

Insurance firms usually engage in different financial services to meet the need of various policy holders. Insurance companies differ in size and 'products' or services they offered to customers. The size of the insurance firms may determine the number of customers they could have; and by implication if the size is large, this will required much cash flow to meet administrative and non- administrative charges. Thus, size should contribute to the competitiveness, dominance of insurance companies; it could also engender their ability to satisfy customers' demand as the need arises in the insurance sector. The nexus between cash flow and financial performance of firms in the financial sector, specifically the insurance companies has become an area of keen interest to numerous researchers both in developed and developing countries. There are very little or no studies that have examined the relationship between cash flow and the financial performance of Insurance companies in Nigeria at least to the best of the knowledge of the researchers. It is this gap this study addresses. The specifically the focus of this study is to examine the relationship between cash flow from operating activities and the financial performance of insurance firms; investigate if cash flow impact on the financial performance of insurance firms; ascertain the relationship between cash flow from investment activities and the financial performance of insurance firms; and determine if cash flow from financing activities impact on the financial performance of insurance firms in Nigeria. section of this paper concerned with a brief review of both theoretical and empirical existing literature; this is followed by section three which presents the methodology employed to undertake the study; next is section four which is devoted to the empirical analysis of data, interpretation of results and discussion of findings; and the last section presents conclusion and recommendations arising from empirical results obtained.

2. Review of Related Literature

There are plethora of studies that have examined the relationship between cash flow and firm performance both in developed and developing countries and such studies include Khoshdel (2006); Ashitiani (2005), Miar (1995); Shahmoradi (2002), Bingilar and Oyadonghun (2014), Nwokoye and Ogbeide (2015), Watson (1955); Amuzu (2010),

Chikaghi (2013). The empirical findings from these studies are mixed and inconclusive, thus necessitating a further re-examination of the subject matter. For example, Zhou, Yang and Zhang (2012) report shows that there is a negative relationship between cash flow and firm performance in China. Ali, Alireza and Jala (2013) study revealed that company's performance and cash flow have a significant negative relationship. The study of Ashitam (2005), shows that the relationship between operating cash flows, investments, financing and stock return, a proxy for financial performance in Tehran Stock Exchange are insignificant and negatively correlated. Nwanyanwu (2015) investigates the association between cash flow and organizational performance in hospitality and print media in industry in Nigeria. Data were collected through questionnaire. The analyses were performed by means of descriptive statistics and Pearson product moment coefficient of correlation. The result indicates a statistically significant strong positive relationship between cash flow position and net profit. They concluded that cash flow position determines the extent of net profit performance of organizations in the hospitality and print media.

Ogbonnaya, Ekwe and Uzoma (2016) examined the relationship between cash flow and financial performance of listed banks in emerging economies using Nigeria as an example. The data were obtained from the annual report and accounts of the selected banks. The data were subjected to statistical analysis using correlation technique. The result they obtained showed that operating cash flow has a significant and strong positive relation with performance in the banking sector in Nigeria. Duru, Okpe and Chitor (2015) determined the effect of cash flow statement on company's performance of food and beverages companies in Nigeria. Data were obtained from the annual reports and accounts of six (6) companies sampled for the study. The data were analyzed using multivariate regression technique. The result revealed that operating and financing cash flows have significant positive effect on corporate performance in the food and beverages sector in Nigeria. The result also showed that investing cash flow has significant negative relationship with corporate performance. The research recommended that regulatory authority should encourage external auditors of quoted food and beverages to use cash flow ratios in evaluating the performance of a company before forming an independent opinion on the financial statement as this will give detailed information on the company to enable investors make rational investment decisions.

Amuzu (2010) studied the relationship between accounting ratios, operating cash flows, investments, financing and stock returns in Tehran stock exchange. The researcher used the pearson correlation and simple linear regression method to analyze the data for a sample of 650 listed companies for the years 1998 to 2004. The results showed that there is a meaningful relationship between among the growing of operating earnings, net profits, operating cash flows, investing cash flows with stock returns. It is also worthy to note that the relationships between firm size and performance (profitability) have received mixed results on the empirical fronts. While some studies have ascertained a positive relationship between firm size and profitability on the contrary, others have reported a negative relation between firm size and profitability (Chikashi, 2013). For instance, Watson (2005), found that firm size does not have an effect on profitability. One thing peculiar to all these empirical studies is that they did not critically examine the association between firm size and profitability of insurance firms. The need to bridge the gap on the empirical fronts necessitates this study.

Empirical evidence has not been able to clearly verify the "size does matter", hypothesis; and much of the early works that tried to prove that size does matter was based on markets in the U.S and the UK in the early 1960s and 1970s (Ashtiani, 2005). Also, Boodhoo (2009) study using oligopoly model indicates that size is positively related to a firms' ability to produce technologically complicated products which in turn leads to

concentration. The empirical relationship between a firm's size, structure and profitability has found that size is positively correlated with profitability, with profit rate of the market positively correlated with the concentration ratio and negatively correlated with the marginal concentration ratio (Elliot and Elliont, 2002). So, larger firms are able to leverage on economies of scale. Some other studies have showed that there exist non-significant results between firm size and profitability (e.g. Bingilar and Oyadenghan). Another plausible argument to justify the possibility of a negative firm size – profitability relationship can be found in the concept of x-inefficiency; x-inefficiency or organisational slack is a measure of the degree to which costs are higher than they need be (Akintoye, 2008). It is stressed further that whilst diseconomies of scale refers mere to the inadequacy in matching resources requirement to produce more, x-inefficiency reasons that general managerial or technological inefficiency in larger firms cause higher production costs which end – up in reduction in the bottom line, i.e profit rate decline.

The import of this is that is prettily difficult to argue straight and establish with empiricism that firm size predominantly determine profitable, particularly across all industries. Thus there is need for re-verification in this study for the purpose of contributing to existing literatures. The measurement of firm size differs from one researcher to the other. The majority of the studies have reported that firm size affect profitability; they have found results indicating positive direction between firm size and profitability; the majority of these studies have used total assets, total sales or number of employees as firm size indicators (Fabozzi and Markomitz, 2006). The result of the study has indicated that firm size affects firm profitability in a positive way.

3. Methodology

This study is both explanatory and experimental. The population of the study is the entire insurance firms in Nigeria in the period under considerations. The sample size of twenty seven (27) of the insurance companies for the period 2009-2014 was selected using the purposive sampling method. The data were collected from the secondary source, basically from the annual financial statements of the insurance companies. For the purpose of empirical validation of the variables in the above model, the panel estimates generalized least squares (EGLS) is used for analysis. Employing the econometric package of E-views version 7.0, the pooled and panel data estimates of the multiple regression models was used, after carrying out diagnostic tests, correlation analysis and inferential statistics.

3.1 Model Specification

The model employed in this study is underpinned to the work of Duru, Okpe and Chitor (2015) where they examined the effect of cash flow statement on company performance of food and beverage companies in Nigeria for the period 2007 to 2011. The model is modified and used in this present study. It is specified in a stochastic form as follows:

$$Roe_{it} = \beta_o + \beta_1 cshf_{it} + \beta_2 cshfop_{it} + \beta_3 cshfinv_{it} + \beta_4 cshffin_{it} + \beta_5 fsize_{it} + \varepsilon_{it}.$$

Where

$\beta_1 - \beta_5$ are the coefficients of the parameters of estimation.

ROE represents return on equity, a proxy for firm financial performance and is the dependent variable.

Cshf represents cash flow.

Cshfop represents cash flow from operating activities

Cshffin represents cash flow from financing activities

Cshfinv represents cash flow from investing activities

Fsize represents firm size

ε represents the stochastic error term, β_o is the intercept i= represents cross- section and t is the time period, 2008 -2015 the study covers.

3.2 Apriori Expectation

The a priori expectation in the model is of the form; β_1—β_5 >O. What this connotes is that all the independent variables are expected to have a positive relationship with firms' financial performance.

4. Empirical analysis

The aim of this section is to present the result of the various Econometric Estimation of robustness purpose. The data analyses entail descriptive and inferential analyses. The outcomes are sequentially presented as follows:

Table A: Diagnostic Tests Results

Ramsey RESET Test
Equation: UNTITLED
Specification: RETOE C CASFO CASFI CASFF CASHT TASST
Omitted Variables: Powers of fitted values from 2 to 4

	Value	df	Probability
F-statistic	1.522564	(3, 144)	0.0000
Likelihood ratio	4.777790	3	0.1888

Variance Inflation Factors
Date: 05/31/16 Time: 03:35
Sample: 1 189
Included observations: 153

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	15.03391	3.988277	NA
CASFO	2.98E-06	2.392722	2.176674
CASFI	1.42E-06	1.984924	1.925280
CASFF	2.26E-06	1.661096	1.652231
CASHT	0.022116	2.305824	1.072899
TASST	7.78E-08	4.886147	1.754337

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.021706	Prob. F(4,143)	0.0000
Obs*R-squared	0.092838	Prob. Chi-Square(4)	0.9990

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.792721	Prob. F(5,147)	0.0000
Obs*R-squared	4.017069	Prob. Chi-Square(5)	0.0000
Scaled explained SS	48.23677	Prob. Chi-Square(5)	0.0000

Source: Researcher's computation, 2016.

The Ramsey RESET test which reveals the adequacy of the model specification based on the table above shows that the F – statistical probability value of 0.0000 exceeds 5%, thus indicating no evidence of model misspecification. The variance inflation factor (VIF) test reveals the presence or not of multicollinearity among the variables using center variance inflation nine of the variables shows factor (VIF), sign of multicollinearity. Basically, VIF test above 10 is seen as a cause of concern for the presence of multicollineariy. The result of the Breusch-Godfrey serial correlation langranger multiplier test shows that the prob –chi-square value of 0.0000 is greater than the prob. F – statistical value of (4,143) of 0.0061 at 5%. It thus suggests that the problem of serial autocorrelation in the regression result is unlikely. The autoregressive conditional Heteroscedasticity test (ARCH Test) result show that the prob-chi-square value of observed R – squared (0.000) exceeds 5%, hence the conclusion drawn is that no Heteroscedasticity exists in the regression result. The implication of the above diagnostic tests result is that there is no violation of the OLS assumption.

Table B: Correlation Matrix

	RETOE	CASFO	CASFI	CASFF	CASHT	TASST
RETOE	1		0.083	-0.023	0.181	0.107
CASFO	0.158	1	-0.393	-0.126	0.145	0.634
CASFI	0.083	-0.393	1	-0.507	0.087	-0.307
CASFF	-0.023	-0.126	-0.507	1	-0.101	0.039
CASHT	0.181	0.145	0.087	-0.101	1	0.196
TASST	0.107	0.634	-0.307	0.039	0.196	1

Examination of the above table points out that all the variables are both weak and positively and negative associated. RETOE and CASFO are positively correlated, CASH and CASFO are positively related. The s are applies among the other variables respectively. No multicollinearity is observed in the correlation matrix.

Table C: Hausman Test

Test summary	Chi-square statistic	Chi-sq d.f	Prob
Cross-section random	4.6112	6	0.0012

Source: Data computed by researchers based on E-VIEWS, 2016

From the above table, Hausman test chi-square statistic is 4.6112 with a probability value of 0.0012 ($P < 0.05$) indicating significant difference. Thus, the null hypothesis is rejected hence the conclusion is that the fixed effect estimator is preference.

4.1 Panel least square multivariate regression analysis

Table D: Fixed effect estimation

Dependent variable RETOE	Variables	Coefficient	t-statistic	Probability
	C	-5.412061	-1.341209	0.1820
	CASFO	0.003802	2.206141	0.0290*
	CASFI	0.002409	2.006689	0.0467*
	CASH	0.001788	1.176765	0.2413**
	TASST	-8.45E-05	-0.298178	0.7660**
R^2	0.73			
ADJ. R^2	0.66			
F-statistic	1.948765			
Prob. F-statistic	0.037994			
Durbin-Watson stat	1.547016			

Source: Data computed by researchers, 2016.

Key: * Indicate 95% level of significance. ** Indicate none significance at 95% level.

The above table shows that the R^2 statistic is 0.73 while the adjusted R^2 statistic is 0.66. This shows that 73% of systematic variation in financial performance (RETOE) of the insurance companies is explained by changes in cash flows. After adjusting the degree of freedom, 66% variation in the financial performance of the insurance firms was explained by changes in explanatory variables, learning 34% unexplained due to the presence of stochastic error term. This suggests that cash flow influence the financial performance of insurance firms in Nigeria. The F – statistic, 1.948765 with a probability value of 0.037994 showed that the model satisfies the overall goodness of fit statistical test. It implies that cash flow measures, inclusive of the control variable are able to predict financial performance of the sampled insurance companies in Nigeria. The Durbin-Watson statistic of 1.54 (approximately 2.0) indicate the absence of serial autocorrelation in the model. It suggests that the result it good for policy prescription. Similarly, the t-statistics and R^2 statistics are not extremely high as to suggest the existence of Multicollinearity and Heteroskedasticity in the model. It further portends that the econometric model employed in this study satisfies both statistical and diagnostic criteria. It represents a good and consistent estimator, and hence useful for policy direction in the insurance firms in Nigeria. The individual coefficient shows that a unit change in cash flow from operating activities increases the financial performance (RETOE) of the insurance firms by 0.003802 units and is statistically significant at 95% level. 0.002409 units change in cash flow from investing activities enhances the financial performance (RETOE) and it was statistically significant at 95% level. It can be observed that 0.001788 unit change in cash flow from financing activities increases the financial performance (RETOE) of the insurance firms. It is however not statistically significant at 95% level. Cash flow generally put together is observed to increase the financial performance of the insurance firms by 0.326666 units and is statistically significant at 95% level. Total assets which measure the size of the insurance firms in Nigeria have -8.45 units. This shows that the size do not increase the financial performance of insurance firms and is also not statistically significant in the period considered.

5. Discussion of findings

The empirical estimations as regard the impact of cash flow on the financial performance of insurance firms in this study in Nigeria is quite revealing. Cash flow was observed to determine insurance firms' financial performance and is statistically significant. The finding is consistent with Knechel et al., (2007); Bingilar and Oyadunghan (2014); Tuvcas (2011) Amuzu (2010). The findings however differ from that of Uremadu, (2004) where they reported negative impact of cash flow on firms' performance. The implication of this finding is that efficiency and application of managerial skills by managers in handling the three major activities in the business will engender performance. This ultimately will lead to maximization of the shareholders wealth. Cash flow from operating activities was observed to significantly increase financial performance of the insurance companies in the period examined. The findings however complimented Van, (2009) and that of Duru, Okpe and Chitor (2015). The findings are however not in tandem with Ashitani (2005). Cash flow from financing activities was found to increase the financial performance of the sampled insurance firms, but was not statistically significant. It failed to agree with Ali et al (2016). Cash flow from investing activities enhances the financial performance of the firms and was statistically significant. The finding is indirectly in consonance with Thanh and Nguyen, (2013). It is not however consistent with Ashitani (2005). The size of the insurance company did not increase the financial performance of the insurance firms and was also not statistically significant.

6. Conclusion and recommendations

Cash flow is a major concern that every managers watch out for carefully so as to achieve a stated objective. A negative cash flow spells out insolvency and financial crisis, particularly for insurance firms. This is because without cash, it is prettily difficult to efficiently operate the business, meet their obligations as at when due, expand operation and maximize wealth of the shareholders. The results of this study have showed that cash flow is a major determinant of the financial performance of insurance firms in Nigeria. Size does not increase financial performance of insurance firms. What is required to operate optimally is efficiency in the cash flow generation. A lot of insurance companies have liquidated due to the inability to meet financial obligations to the customers majorly occasioned by insufficient cash flows. This has engender moral hazard and adverse selection in the insurance sector in Nigeria. It is therefore recommended that there has to be adequate policy thrust by CBN, making it mandatory for insurance companies in Nigeria to maintain persistent increase in cash reserve. The level and strength of corporate governance need to be monitored by the Apex bank. The managers in insurance firm should regularly change the extent of the cash outflows under each activity to avoid negative cash flow position as well as financial crisis. Adequate investment appraisal is really a concern that insurance firms need to take into consideration when customers are taking up insurance coverage. The costs have to be weighed against the benefits accruable therefore.

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