

A Study on the Relationship between Cash-flow and Financial Performance of Insurance Companies: Evidence from a Developing Economy

Sunday OGBEIDE¹
Babatunde AKANJI²

Abstract

The study examines the relationship between cash flow and financial performance of insurance companies in a developing economy – Nigeria. Using time series data for the period 2009-2014, twenty seven listed insurance firms in Nigeria 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 ordinary list square.

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 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 at which cash is spent 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 thereto.

Keywords: *Cash flow from operating activities, cash flow from investing activities, cash flow from financing activities, firm size.*

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1. Introduction

Cash liquidity is very critical and necessary to the financial status of firms. Cash in organizations usually takes two direction and are – inflow and outflow. The difference between these two concepts results in cash flow. Thus, a financial

¹ Sunday Ogbeide, Department of Accounting, Faculty of Social and Management Sciences, Elizade University, Ilara- Mokin, Ondo State, Nigeria

² Babatunde Akanji, Department of Human Resource Management, Faculty of Social and Management Sciences, Elizade University, Ilara- Mokin, Ondo State, Nigeria. E-mail: sunday.ogbeide@elizadeuniversityedu.ng² babatunde.akanji@elizadeuniversity.edu.ng

manager in an organization makes it a priority to ensure cash outflow does not outweigh the cash inflow. Net positive cash flow connotes there is prudent management of cash under the three activities in the organization, which are – 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, debt, bad inventory, poor cash management, weak investment skills and inability of finance managers to critically engage in optimal financing decision for a period. It is also a pointer that there is higher proportion of cash leaving the business than it comes. This explicitly is a red flag to the cash position and consequently the business performance of a quoted company.

As noted by Narkabtee (2000), the “the importance of cash flows cannot be overemphasized mainly because the users of accounting information are particularly interested in the cash of the company that is published in its financial statements”. Internally, managers need to know the current financial position of the firm (performance and problems); how to deal with financial problems and also control functions (Bodie, Kane, Marcus, 2004). In corroborating this view, Fabozzi & Markomits (2006) stressed that suppliers are always interested in a firm’s liquidity because their rights are generally on a short-term basis and in any case, the company’s ability to pay is best reflected by the company’s liquidity indicators. Earlier, Bragg (2002) accentuated that investors in bonds who ordinarily lend to firms in medium or long term basis for a pay-back are also interested in the firm’s ability to generate cash flow for medium and long-term coverage of servicing debts. In addition, Bingilar & Oyadonghan (2014) stated that “cash flow of a company is a crucial factor that enhances its operations”.

Uremadu (2004) sees cash flow of an organization as those pool of funds that the organization commits to its fixed assets. As noted by Efobi (2008), the ability of a firm to effectively choose adequate sources of funds to finance its operations will differentiate strong cash flow governance and poorly managed cash flows. As such, cash flow is an index of the money that is actually received by or paid out by a firm for a certain period of time (Albrecht, 2003). This index is not inclusive of non-cash accounting changes such as depreciation; cash representing the firm’s vascular system of which if it dwindles, the business will not survive. Furthermore, the fact that a firm is profitable does not mean that it is also solvent in that the profit is not cash only (Bingilar, Oyadenghuan, 2014). Turcas (2011) is also of the view that the solvency, flexibility and the financial performance of the firm are set on the firm’s ability to generate positive cash flows from its operating, investing and financing activities.

Knechel, Salterio, Stephen, Ballon & 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. The authors further opined that this is because a cash flow statement shows whether activities of investing have

either been financed externally, borrowing done internally which at the same time is not affecting either the working capital management or generated profits for the same period.

Subsequently, cash flow analysis is thought to be more effective in determining an enterprise's effectiveness and competitiveness in the market because it is a more dynamic examination of actual returns on assets and equity (Amuzu, 2010). Similarly it is argued that cash flow analysis is a better measure of performance and competitiveness for firms competing in emerging markets. In essence, 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 (Ross, WesterField & Jordan, 2007). Specifically, the kind of information that the cash flow statement contains include details of operating, investing and financial activities (Macve, 1997). Thus, insurance firms usually engage in different financial services to meet the need of various policy holders despite the fact that insurance companies differ in size and 'products' or services they offer 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 require more cash flow to meet administrative and non-administrative charges. Thus, size should contribute to the competitiveness and dominance of insurance companies. It could also engender their ability to satisfy customers' demand as the need arises in the insurance sector. Insurance firms usually differ in terms of size and area of specialization. Large insurance firms usually have the propensity to pool large resources to meet the need of customers or indemnity than when the situation arises. Intuitively, it is expected that the larger the insurance company, the more they can perform more than the smaller firms and make more profit given that all other variables remain constant.

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 is very little or no study 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 that this study addresses.

As such, the specific 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. The next section of this paper is concerned with a brief review of both theoretical and empirical existing literature; this is then followed by examining the methodology employed to undertake the study while this is followed by the empirical analysis of data, interpretation of results and discussion of findings. Also, the conclusion and recommendations arising from empirical results are presented.

2. Review of related literature on the relationship between cash flow and firm performance

There are plethora of studies that have examined the relationship between cash flow and firm performance both in developed and developing countries (see Khoshdel, 2006; Ashitiani 2005; Miar, 1995; Bingilar, Oyadonghun 2014; Amuzu 2010; Chikaghi, 2013). However, some of the empirical findings from these studies are mixed and inconclusive; thus necessitating further research on the subject matter. While some studies show that there is a negative relationship between cash flow and firm performance, others reveal a positive relationship between company's performance and cash flow (Ashitiani 2005; Amuzu 2010). The study of Ashitiani (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. In quantitative study, Bingilar & Oyadenghan (2014), made enquiries of the association between cash flow and organizational performance in hospitality and the printing media industry in Nigeria. Data were collected through questionnaires while the analyses was performed by means of descriptive statistics and Pearson product moment coefficient of correlation. The result indicated a statistically significant and strong positive relationship between cash flow position and net profit and this made Bingilar, Oyadenghan conclude that cash flow position determines the extent of net profit performance of organizations in the hospitality and printing/media sectors.

In another study, Ogbonnaya, Ekwe, Uzoma (2016) assessed the relationship between cash flow and financial performance of listed banks in emerging economies using Nigeria as case study. Data was obtained from the annual reports and accounts of the selected banks and subjected to statistical analysis using correlation technique. The study outcome revealed that operating cash flow has a significant and strong positive relation with performance in the Nigerian banking sector. Further results also showed that investing cash flow and financing cash flow had negative and weak relationship. The authors therefore recommended that the Nigerian financial regulatory authorities to scrutinize financial reports of quoted banks in Nigeria and make external auditors use cash flow ratios to evaluate performance for the purposes of helping investors make the right decision. In another interesting study, Nwakaego, Ikechukwu & Ifunanya, (2015) empirically determined the impact of cash flow on a firm's performance of a Nigerian food and beverage company. The result revealed investing cash flow had a significant negative relationship of corporate performance. Further, the nexus existing between firm size and performance has also received considerable attention in both theoretical and empirical research. Dogan (2013) argued that it is obvious for big companies to have more competitive power when compared to smaller ones since they have a bigger market share which makes this big firms have the opportunity to profit more.

Subsequently, these big firms seize the opportunity to work in market places that require high capital rates since they have larger resources, and this situation provides them more opportunity to work in more profitable environment with little competition. Thus, economic theory postulates that having a firm size allows for incremental advantages because firm size raises the barriers of entry to potential entrants and at the same time creates leverage on the economies of scale to attain higher profitability. In as much as firm size influences profitability, this general notion may not apply to all industries since profitability can also be determined by several complex factors including product prices, factor costs, production function and so on. Thus, the hypothesis that size does matter for profitability purposes is not generalizable without providing relevant qualifications. The import of this is that it will be difficult to argue logically and establish with empirical facts that firm size predominantly determines profitable, particularly across all industries. Thus, there is need for re-verification in this study for the purpose of contributing to the existing literature. For instance, an empirical study on the relationship between firm size and profitability by Niresh & Velnampy (2014) found no relationship between firm size and profitability of listed manufacturing companies in Sri Lanka. So their study emphasized that firm size has no profound impact on profitability of some categories of companies.

3. Methodology

This study is both explanatory and experimental. The sample size of 27 insurance companies quoted for the period – 2009 to 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.

4. Model Specification

The model employed in this study is underpinned to the work of Nwakaego, Ikechukwu and Ifunanya (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:

$$\text{Roeit} = \beta_0 + \beta_1 \text{cshf}_{it} + \beta_2 \text{cshfopit} + \beta_3 \text{cshfinvit} + \beta_4 \text{cshffinit} + \beta_5 \text{sizeit} + \epsilon_{it}$$

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_0 is the intercept
 i = represents cross- section and t is the time period, 2008 -2015 the study covers.

5. Apriori Expectation

The a priori expectation in the model is of the form; $\beta_1—\beta_5 > 0$. What this connotes is that all the independent variables are expected to have a positive relationship with firms’ financial performance.

Empirical analysis

Table A: Diagnostic tests

Variance inflation factors (VIFs)		
Coefficient. variance Centered VIF		
CASFO	2.980	2.176
CASFI	1.420	1.925
CASFF	2.260	1.652
CASHT	0.022	1.072
TASST	7.780	1.544
Breusch – Godfrey – serial correlation LM test		
F-statistic = 0.021706	Prob.F(4, 143)	0.7365
Obs * R-squared = 0.092838		Pro. Chi-square (4) 0.0000
Heteroskedasticity test Harvey		
F-statistic 2.913026	Prob. F(4, 12)	0.0675
Obs * R-squared 8.374974	Prob. Chi-square 0.0788	0.0788
Ramsey Reset Test		
F-statistic = 1.522564	Prob.F(3, 144)	0.0000

Source: Researchers’ compilation from E-view 8.0 (2016)

The diagnostic table above shows that the variance inflation factor statistic is less than 10 (Centered VIF < 10) for each of the variables. This indicates absence of multicollinearity among the explanatory variables. The ARCH (Harvey) Heteroskedasticity test shows the presence of homoscedasticity (0.0000 > 0.05), thus confirming the constant variance assumption of the ordinary least square estimator. The Breusch-Godfrey serial correlation LM test result of 0.0000 > 0.05) points out the absence of higher order correlation. The Ramsey Reset Test result of (0.0000 > 0.05) substantiate validity of the regression model.

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. CASFO and CASHT are positively correlated ($r = 0.145$, $r = 0.181$), CASFO and TASST are positively related ($r = 0.634$, $r = 0.107$); CASFO and CASFF are negatively related ($r = -0.126$, $r = -0.023$); CASFO and CASFI are positively and negatively related ($r = -0.393$, $r = 0.083$); this 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.

Panel least square multivariate regression analysis

Table D: Fixed effect estimation

Dependent variable	Variables	Coefficient	t-statistic	Probability
RETOE	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**
R²	0.73			
ADJ. R²	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 R² statistic is 0.73 while the adjusted R² 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, leaving 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 is good for policy prescription. Similarly, the t-statistics and R² 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.

6. Discussion of findings, conclusions and recommendations

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 Nwayanwu (2015), Bingilar & Oyadunghan (2014) and Amuzu (2010). The findings however, differ from that of Zhou, Yang and Zhang (2012) where they reported negative impact of cash flow on firms' performance. The implication of this study findings is that there is need for efficiency and application of managerial skills in handling the three major

activities in the business will engender performance. This ultimately will lead to maximization of the shareholders wealth.

From this paper, cash flow from operating activities was observed to significantly increase financial performance of the insurance companies in the period examined. The findings are however not in tandem with Ashtiani (2005) where cash flow from financing activities was found to increase the financial performance of the sampled insurance firms, but was not statistically significant. As such, cash flow is a major concern that every managers must closely manage carefully so as to achieve the competitive objectives of a firm. A negative cash flow spells out insolvency and financial crisis, particularly for insurance firms. This is because without cash, it will be difficult to efficiently operate the business, meet obligations as at when due, expand operations and maximize wealth of the shareholders. Thus, the results of this study have showed that cash flow is a major determinant of the financial performance of insurance firms in Nigeria while the size of a firm may or may 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 gone into liquidation due to the inability to meet financial obligations to the customers majorly occasioned by insufficient cash flow. 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 the Central Bank of Nigeria (CBN) making it mandatory for insurance companies to maintain persistent increase in cash reserve. The level and strength of corporate governance need to be monitored by the apex bank (i.e. CBN). The managers in insurance firms should regulate the extent of cash outflows under each activity to avoid negative cash flow issues 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 covers. As such, the costs have to be weighed against the benefits accruable therefrom.

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