

MONETARY POLICY AND INSURANCE SECTOR PERFORMANCE IN NIGERIA

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Abstract

The study empirically examines the effect of monetary policy on the performance of insurance sector in Nigeria for the period 1985 to 2021. The error correction model (ECM) and the cointegration econometric technique were employed for the estimation of the short run and long run relationship. The empirical findings revealed that in the short run, all the hypothesized monetary policy variables (monetary policy rate, cash reserve ratio, reserve requirement, minimum rediscount rate, money supply and interest rate) failed the 5 percent significance level, suggesting that they do not have significant effect on insurance sector performance in Nigeria in the short run. On the other hands, the results of the long run model indicate that monetary policy rate, cash reserve ratio and minimum rediscount rate have significant positive relationship with insurance sector performance. However, those of reserve requirement, money supply and interest rate do not have significant relationship with the performance of insurance sector in Nigeria within the period of investigation. The study recommends among others that since the result from the study has shown that Monetary policy rate significantly impact insurance performance, it therefore follows that activities of insurance firms as well as their overall performance can be adversely impacted by monetary policy decisions if not proactively prepared for and responded to. To this end, management should evolve appropriate strategy that would enable them proactively tackle unfavourable business environment resulting in macroeconomic risks in order to avoid adverse operating losses.

Keywords: Monetary Policy, Insurance Firms, Firm Performance, Econometric and Statistical Methods

Introduction

The role of insurance firms in any economy across the globe cannot be undermined due to the enormous task of providing the insured (ranging from households, companies and economies) protection against financial losses. They are responsible for provision of risk transfer, indemnification services and financial intermediation among others to citizens (Cai, 2016). It is a veritable platform where registered firms guarantee the insured specific compensations against specified losses, damage, illness, or death in return for payment of a predetermined premium (French, Vital & Minot, 2015). According to Cummins et al., (2018), a well-structured insurance industry, being also a financial intermediary provides a platform for efficient transfer of savings to stimulate the productive sector of the economy (Azman-Saini & Smith, 2011). In addition, the sector is also known for risk transfer, indemnification services, and financial intermediation services (Ben-Dhiab, 2021) thereby assisting policy holders who are on daily basis engaged in risky productive ventures that are very crucial for the overall growth and development of the economy (Ward & Zurbureg, 2000).

In view of the risk transfer, indemnification and financial intermediation services and functions of the insurance firms, they are also strictly monitored and/or affected (like their banking sector counterpart) by the daily policies of the monetary authority in the economy whose statutory responsibility is ensuring maximum employment, stable prices and moderate long-term interest rates thereby guaranteeing the overall growth of the economy. Thus, monetary policy instruments (monetary policy rate, cash reserve ratio, reserve requirement, minimum rediscount rate, Money supply, interest rate) have long been acknowledged as an important regulatory instrument often employed by monetary authorities globally to influence insurance investment activities mainly because, the non-banks financial institutions also matters in the transmission of monetary policy (Ben-Dhiab, 2021). This effectively aligns with the Radcliffe (1950) committee which earlier suggested a strong positive relationship between insurance firms (non-bank financial institutions) and monetary policy; and this eventually led to the redefinition of money supply as $M_s = C + DD + SD + TD + NBFI$ (Onoh, 2002).

The Nigerian insurance industry since 2003 has experienced a lot of challenges which led to the series of recapitalization processes undertaken by the National Insurance Commission of Nigeria (NAICOM) where general insurance was required to recapitalize up to the tune of N200m; but on May 20, 2019 further stringent requirements were demanded from the industry such that life insurance firms were required to recapitalize from N2 Billion to N8 Billion naira, general insurance N3 Billion to N10 Billion Naira and while composite insurance and reinsurance N5 Billion Naira and N10 Billion to N18 Billion Naira and N20 Billion naira respectively. Despite of all these laudable policy measures aim at revamping the insurance industry in Nigeria, it has performed far below expectation and a shadow of itself. According to Olotu and Makinwa

(2019), “the Nigerian insurance industry is still one of the most underdeveloped in African continent with lowest insurance penetration level of about 0.3% compared to its peers like South Africa having 14.7%, Kenya 2.8%, Angola at 0.8% and Egypt 0.6% respectively”.

Also, the relationship between monetary policy and insurance firms’ performance has not been well researched in Nigeria. To the best of our knowledge and based on the available literature reviewed, apart from the study of Oke, Ideji and Joseph (2010), and Macfubara, Norteh and Gberesuu (2018), no other specific studies in this area have been carried out. Beside, most of the studies done in Nigeria so far (Adesoye, Maku & Atunda, 2012; Adegbite & Alabi, 2013; Ajayi & Ojo, 2014; Adigwe, Echeboba & Justus, 2015) were on the impact of monetary policy on economic growth. Whereas other major studies reviewed were carried out in Saudi Arabia, Philippines, other African countries, Europe and the US. Given this wide gap in the empirical literature, we deemed it necessary to carry this current study in the Nigerian context in order to fill this observable lacuna in knowledge.

Lastly, mixed findings have been observed in the empirical literature. For instance, while Oke, Ideji and Joseph (2010) found a significant negative relationship between monetary policy and insurance firms’ performance, those of Lorian and Matteo (2017), Macfubara, Norteh and Gberesuu (2018) submitted a significant positive relationship. However, those of Macfubara, Norteh and Gberesuu (2018) could not find any significant relationship between insurance performance and monetary policy. In addition, most of the reviewed empirical literature employed OLS, multiple regression, panel data analysis or the GMM in their estimations, but to the best of the researchers’ knowledge, apart from those of Oke, Ideji and Joseph (2010) who employed cointegration and the ECM, no other studies employed the cointegration and the ECM which this study employed. The method is apt in that it enable us to investigate the long run and the short dynamic effect of monetary policy on the overall performance of insurance firms in Nigeria. Thus, the above issues provide the basis for carrying out this study in the Nigerian context.

Thus, the rest of the paper is structure as follows; section two is on literature review, section three deals with methodology, section four focuses on data analysis and interpretation of results, while section five concludes with recommendations.

Literature Review

Conceptual of Monetary Policy

Monetary policy is a set of tools often employed by a country’s monetary authority to ensure stable prices, achieve rapid economic growth through effective manipulation of total money supply in circulation within a period of time. Whereas Einsic (1954) defined “monetary policy as encompassing all monetary decisions and measures irrespective of whether the aims are monetary or non-monetary, and all monetary decisions that aim at affecting the monetary system; Patat (1987) argues that is a work that is used to control the money supply by the central bank as a tool to achieve the objectives of economic policy”. According to Warin (2005), “monetary policy is the process of overseeing a nation's money supply to complete specific objectives such as restraining inflation, or achieving full employment, which usually involve setting interest rates, margin requirements, cash reserve ratio, reserve requirement, capitalization standards for banks and non-banking institutions (insurance firms), and acting as the lender of last resort”. Monetary policies are either expansionary or contractionary in nature. Expansionary policy is often employed to stimulate general economic activity when a country is faced with high unemployment rate as a result of down turn/recession (Rathburn, 2021). This is done by reducing interest rates to enable investors access more loans for investment purposes at a lower rate, thereby discouraging savings and encourage spending, and by so doing boost investment and overall consumers’ spending. On the other hand, contractionary measure is adopted to increases interest rates in order to slow down the volume of money supply, reduce inflationary trend and indirectly increase unemployment rate, nevertheless, it remains a veritable tool for stabilizing the economy and effectively keep prices under check (Fischer, 1990; Rathburn, 2021).

Tools and Instruments of Monetary Policy

Warin (2005) argued that “the primary tool of monetary policy is open market operations, which entails overseeing the quantity of money in circulation through the buying and selling of a variety of credit instruments, foreign currencies, or commodities”. However, in Nigeria, the Central Bank has since shifted from the direct instruments to that of market-based instruments which also include “open market operation (OMO), monetary policy rate, cash reserve ratio, minimum rediscount rate, interest rate, exchange rate, and reserve requirements which specifies the proportion of a bank’s total deposit liabilities that should be kept with the central bank; and discount window operations under which the central bank performs the role of lender of last resort to the deposit money banks; besides, OMO may be undertaken through outright transactions or through repurchase transactions: but other supporting instruments are discount window operations, moral suasion, forex sales and the standing facility introduced in December 2006”.

Insurance Business, Economic Activities and Monetary Policy Instruments

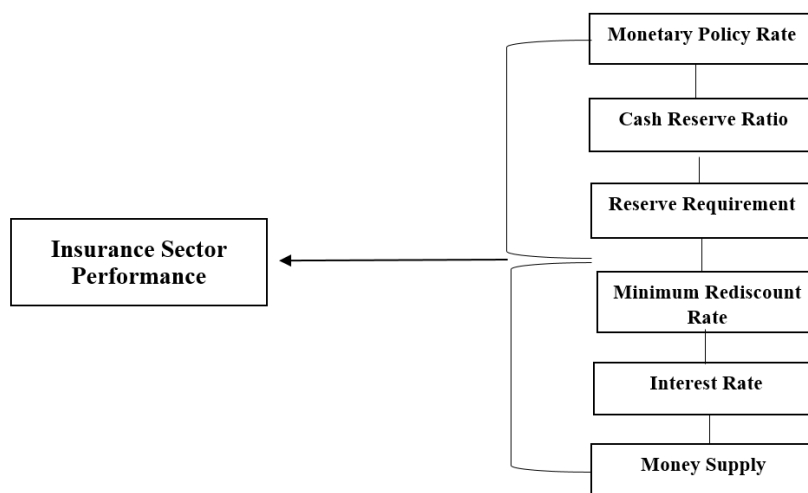
More attention have been given to the banking sector by the monetary authority while downplaying the insurance sector counterpart mainly because, the issue of systematic/idiosyncratic risk is believed to be

inherent in the banking sector alone but today, the assertion can no longer withstand the test of time given the dynamics in the financial spectrum because the issue is even more pronounced in the insurance sector that is actively involved in the financial markets activities (IAIS, 2011; Christopersen & Zschiesche, 2018). Hence, to the extent of the insurance firms’ active participation in the resource mobilization the financial market, to that extent they are equally affected/influenced by monetary policy tools and instruments. Ideally, failure of the sector to provide insurance services would have serious negative implications for the real economy because the sector could be systemic in its own right as a result of constant linkage of its activities with the financial markets (IAIS, 2011; Bank of England, 2014).

Theoretically, insurance business entails provision indemnity against occurrence of a loss to households or businesses and by such activity they are equally involve in the growth of the economy by assisting victims/insured who are affected by an insurable shock (Christopersen & Zschiesche, 2018). Thus, “insurance firms do actively facilitate trade and funding other specific investments, as well as act as information hubs on the price of risk, improving overall resource allocation and enhancing financial intermediation by pooling and mobilizing savings to provide funding to investors for longer-term investment (Christopersen & Zschiesche, 2018)”. Therefore, the role of monetary policy instruments in the operations and activities of insurance firms visa-vic performance cannot be taken for granted because, the issue of interest rate, inflationary trend, exchange rate, monetary policy rate, cash reserve ratio, open market operation (OMO) also have their direct or indirect attendant effects on insurance activities.

Conceptual Framework

This framework technically explain the expected relationship that exist between insurance sector performance and hypothesized monetary policy variables in the study. It is assumed that with effective deployment of these variables by the monetary authority in Nigeria for instance, and insurance firms being also active players in the financial market with respect to risks sharing, funds mobilization and intermediation functions, these variables (monetary policy rate, cash reserve ratio, reserve requirement, minimum rediscount rate, interest rate and money supply) should have effect on the overall activities of the insurance firms.



Source: Author’s Design 2021.

Figure 1. Schematic Diagram of Monetary Policy Variables and Insurance Sector Performance Relationship

Theoretical Framework

The theoretical framework for this study hinges on Fischer (1971) theory/model of nominal interest rate and inflation rate. According to this mode, inflation and interest rate changes should impact economic functions in the same direction. Thus, the relationship between inflation, interest rates and insurance performance is reflected in the theoretical estimation of insurance premium, calculated as from discounted losses plus expenses and profit (referred to as risk charge). The functional form of the model as stated in the studies of Doherty and Garven (1995) and Weiss (2007) is as follows:

$$\frac{EI(I_c, I) + \text{Expenses } (T_t) + \text{Profit} \dots \dots \dots 3.1}{1 + r}$$

Where; P = Insurance premium; EL = Expected Losses; I_c = Claims Inflation; I = Expected inflation; r = Interest Rate; and T_t = Technology

This model demonstrates the basic principle of insurance activities as well as the link between premium, expected losses, interest rate, inflation and profitability for the insurance business model. Thus, on the basis

of the forth going, it can safely be deduced that insurance sector performance should be positively related to monetary policy variables.

Empirical Literature

Oke, Ideji and Joseph (2010) examined what factors that affect the level of insurance consumption in Nigeria for the period 1970 to 2005. Using the cointegration and ECM mechanisms, the findings indicate that “RGDP and structural adjustment program have significant positive effect on life insurance consumption; however indigenization policy and interest rate have significant negative effect on consumption level; while return on investment, inflation rate, openness and political instability do not play significant role in life insurance consumption.

Moro and Anderloni (2014) empirically re-examined the determinants of 198 insurance firms’ performance in Europe over the period 2002 to 2014. Employing the panel regression analysis, it was found that size and diversification have significant inverse effect on performance while reserves and turnover ratio significantly and positively affect performance. In another related study by Nino (2016) on the link between non-life insurance market variables, macroeconomic factors and performance in Philippine over the period of 2008 to 2012. Employing the utilizing the panel data analysis technique, it was observed that firm size was a significant determinant of non-life insurance firms’ performance in Philippine market.

Dube and Saka (2017) examined the determinants of 24 insurance firms’ performance in Zimbabwe spanning the period 2010 to 2014. Using the factor analysis and multiple linear regression model, it was found that expense ratio, claims ratio and firm size have significant negative impact on Performance, but leverage and liquidity have a positive impact on performance.

Loriana and Matteo (2017) examine the effect of monetary policy intervention the stock performance of 96 US and 70 European reinsurance firms using the event study analysis on 370 trading days from August 26, 2013 to January 24, 2015. “The empirical findings indicate that for the two periods (2008 till 2013) when the monetary policy announcement generates an immediate reduction in the interest rates, the stock market returns increases and the effect on the insurance industry is even stronger and positive”.

In the same vein, Guendouz and Ouassaf (2018) empirically assessed the factors influencing the performance of 6 insurance firms in Saudi Arabia over the period 2010 to 2016. Employing the multiple regression, the results showed that age, size, premium growth rate, and loss ratio have significant positive relationship with performance within the investigating period.

Akhtar (2018) investigates the specific factors responsible for the performance of insurance firms in Saudi Arabia for a period of 6 years (2010 to 2015). Employing the panel data analysis, it was found that market share and profitability significantly and positively influence the efficiency of insurance firms in Saudi Arabia. “Macfubara, Norteh and Gberesuu (2018) examine the effect of monetary policy on the performance of insurance firms in Nigeria over the period 1990 to 2017: and they used multiple linear regressions analysis and observed that all the hypothesized explanatory variables have positive effect performance; hence, monetary policy is a significant determinant of insurance firms’ performance in Nigeria within the investigating period”.

Ben-Dhiab (2021) examines the determinants of profitability of 20 insurance firms in Saudi Arabia for the period 2009 to 2017. The study employed the generalized least squares, OLS as well as the System GMM, and the empirical results indicate that premium growth rate, tangibility ratio and fixed-assets ratio are have significant positive impact on profitability; while size and the liquidity ratio have no significant impact on profitability. Hodula, Janků, Časta and Kučera (2021) examined the determinants of insurance sector development in 24 European countries for the period 1983 to 2017. They used the panel data analysis on a set of macro-financial variables and found significant positive link between market concentration and life insurance; however, price channel significantly influence non-life insurance only.

Methods

The research design adopted for this study is the Ex-Post-facto research which is very applicable in the management and social sciences researches. The population of the study is the Nigerian economy, while the sample size comprises all the listed insurance firms in Nigeria for the period 1985 to 2021. The convenience sampling which is a purposive non-probability sampling method was adopted in the selection of the sample size.

Sources of Data

The data used in this study are secondary data sourced from the Central Bank of Nigeria Statistical bulletin (2021). It covers a period of 37 years (1985 to 2021). The period was specifically chosen because various monetary policies were initiated and implemented by the monetary authority (CBN) in Nigeria as well as the recapitalization of the Nigerian Insurance Sector. Hence, a study carried out within this period will in no doubt provide a valuable information as to the extent to which these policies changes (monetary policy) have affected the insurance sector of the Nigerian economy overtime.

Model Specification

Therefore, the model for this study is hinged on Fischer (1971) theory/model of nominal interest rate and inflation rate earlier stated in the precious section, and is slightly modified to incorporate monetary policy variables (monetary policy rate, cash reserve ratio, reserve requirement, minimum rediscount rate, money supply and interest rate) as relevant factors influencing insurance sector performance. The functional form of the model is stated as follows:

$$ISPER = F(MPR, CRR, RREQ, MRR, M2, INTR).....(3.2)$$

However, the econometric form of the model is stated as:

$$ISPER = \alpha_0 + \alpha_1MPR + \alpha_2CRR + \alpha_3RREQ + \alpha_4MRR + \alpha_5M2 + \alpha_6INTR + U.....(3.3)$$

Where:

- ISPER = Insurance Sector Performance
- MPR = Monetary Policy Rate
- CRR = Cash Reserve Ratio
- RREQ = Reserve Requirement
- MRR = Minimum Rediscount Rate
- M2 = Money Supply
- INTR = Interest Rate
- U = is the stochastic error term in the model.

The a-priori expectations are $\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5$ and $\alpha_6 > 0$

Method of Data Analysis

The method of data analysis for this study is the Error Correction Model (ECM) the cointegration technique. First, the preliminary test for unit root test was conducted using the Augmented Decay Fuller test. The unit root test are conducted to determine the stationarity of the data set. The test is necessary because non-stationary data produces spurious regression results. The co-integration econometric technique help to explain the long run (steady state) effects of monetary policy variables on insurance sector performance in Nigeria. Thus, “if the explanatory variables in their level forms are not stationary but their first difference are stationary and these variables are co-integrated with the performance of stock market returns, then an Error Correction model (ECM) will be appropriate”.

Operationalization of Variables

Table 1. Operationalization of Variables

S/N	Variables	Definition	Type of Variable	Measurement	Apriori sign.
1	ISPER(ROA)	Insurance Sector Performance	Dependent Variable	Total Income/Total Assets	+
2	MPR	Monetary Policy Rate	Independent Variable	As set by the Nigerian Monetary Authority (CBN)	+
3	CRR	Cash Reserve Ratio	Independent Variable	Calculated as a percentage of net demand and time liabilities (NDTL)	+
4	RREQ	Reserve Requirement	Independent Variable	Reserve ratios specified in Regulation D to an firm's reservable liabilities	+
5	MRR	Minimum Rediscount Rate	Independent Variable	Determined by CBN on the year-on-year inflation rate adjusted for seasonality	+
6	M2	Money Supply	Independent Variable	Narrow Money + Savings deposits of post office savings banks	+
7	INTR	Interest Rate	Independent Variable	As Determine by CBN	+

Source: Author’s Computations, 2021

Result and Discusssion

Data Analysis and Interpretation of Results

In this section, the method of data analysis in relation to monetary policy and insurance sector performance in Nigeria as stated in the preceding section are carried out. First, since most panel and time series data are not usually stationary in their levels, stationarity test is carried out in order to avoid spurious regression results. Thereafter, the cointegration analysis which entails conducting the Error Correction Model (ECM)/short run and the long run estimation are carried out.

Unit Root Testing

The results of the unit root test conducted using the Augmented dickey Fuller (ADF) test statistic is presented in Table 2 as follows:

Table 2. Unit Root Test for Variables in Levels and At First Difference

"In Levels				At First Diff			
Variable	ADF Test Statistic	95% Critical ADF Value	Remark	Variable	ADF Test Statistic	95% Critical ADF Value	Remark
ISPER	-1.7622	-2.9511	Non-Stationary	Δ ISPER	-4.4271	-2.9540	Stationary
MPR	-3.6441	-2.9511	Stationary	Δ MPR	-6.2899	-2.9571	Stationary
CRR	0.0829	-2.9511	Non-Stationary	Δ CRR	-6.6514	-2.9540	Stationary
RREQ	3.5810	-2.9511	Stationary	Δ RREQ	-3.2018	-2.9540	Stationary
MRR	-1.3779	-2.9511	Non-Stationary	Δ MRR	-7.1529	-2.9540	Stationary
INTR	-5.3000	-2.9511	Stationary	Δ INTR	-7.1265	-2.9571	Stationary
M2	3.7348	-2.9511	Stationary	Δ M2	-1.6016	-2.9571	Non-Stationary"

Source: Author's Computation 2021

Cointegration Test

The Johansen multivariate Cointegration is employed for the cointegration test. "The test is based on two main tests statistic (the eigenvalue test (λ -max) and the trace test statistics); as can be seen from Table 4.2, both the eigenvalue test (λ -max) and the trace test statistics indicate that there are more than three (3) significant cointegrating vectors between monetary policy variables and insurance sector performance in Nigeria: this implies that a long run relationship exists among these variables". Hence, the results of the cointegration tests are summarized in Table 3 below.

Table 3. Johansen Multivariate Cointegration Tests Results.

"Null Hypothesis	Trace Test			Null Hypothesis	Maximum Eigenvalue Test		
	Trace Statistic	0.05 Critical Value	Prob Value		Max-Eigen Statistic	0.05 Critical Value	Prob Value
$r = 0^*$	203.859	125.615	0.0000**	$r = 0^*$	68.2340	46.2314	0.0001**
$r \leq 1$	135.625	95.7536	0.0000**	$r \leq 1$	53.4233	40.0775	0.0009*
$r \leq 2$	82.2019	69.8188	0.0037**	$r \leq 2$	33.0875	33.8768	0.0619
$r \leq 3$	49.1144	47.8561	0.0379*	$r \leq 3$	22.9894	27.5843	0.1739
$r \leq 4$	26.1249	29.7970	0.1250	$r \leq 4$	15.5081	21.1316	0.2549
$r \leq 5$	10.6168	15.4947	0.2362	$r \leq 5$	9.24089	14.2646	0.2667
$r \leq 6$	1.37594	3.84146	0.2408	$r \leq 6$	1.37594	3.84146	0.2408"

Source: Author's computations 2021.

The Error Correction Mechanism (ECM) (Short-Run Analysis)

The ECM captures the short-run dynamics of the performance of the Nigerian insurance industry as presented in table 4.3 below. The result shows a moderate diagnostic outcome for the model, "with the R-squared value of 0.47 indicating over 47 percent of the systematic variation in insurance sector performance (ISPER) over the short term is explained by short term movements in the explanatory variables including the ECM: even the overall goodness of fit for the model is observed through the F-statistic value of 1.2523 is high and easily passes the significance test at the 1 percent level". Thus, we will accept the hypothesis of a significant linear relationship between ISPER and the explanatory variables.

A close examination of the coefficients of the variables in terms of their significance level reveals that all the coefficients of (monetary policy rate (MPR), cash reserve ratio (CRR), reserve requirement (RREQ), minimum rediscount rate (MRR), money supply (M2) and interest rate (INTR)) failed the significance test at the 5 percent level. This indicates that in the short run, insurance sector performance in Nigeria is not influenced by monetary policy. This result seems to align with those of Chizoba and Nnamocha (2018) who found that interest rate coupled with monetary policy has insignificant positive effect on total profit of the Nigerian insurance industry, and those of Macfubara, Norteh and Gberesuu (2018) who submitted that monetary policy rate does not have significant impact on insurance sector performance. The finding does not align with those of Pelizzon and Sottocornola (2018), Beck and Webb (2003) who found that monetary policy has a moderate negative effect and a positive effect on insurance industry performance, as well as

The coefficient of the ECM term correctly signed and also significant at the 5 percent level. This goes to show that “any short-term deviation of monetary policy variables from equilibrium in the short-run can be restored in the long run, and the slightly low value (-0.476984) of the error correction term indicates adjustment to equilibrium in the long run is moderate and is made during the first year: even the DW statistic value of 1.51 shows the absence of autocorrelation problem in the model”.

Table 4. Short Run Monetary Policy Instruments and Insurance Sector Performance in Nigeria (OLS)

Variable	Coefficient	T-Ratio	Prob.
Constant	0.021655	1.127732	0.2728
DMPR	0.006149	1.233576	0.2317
DRREQ	-9.78E-06	-0.228499	0.8216
DMRR	0.001286	0.342455	0.7356
DCRR	0.004626	0.679266	0.5048
DINTR	-0.000208	-0.303776	0.7644
DM2	-5.44E-06	-0.334408	0.7416
ECM(-1)	-0.476984	-2.162007	0.0429*
DISPER(-5)	-0.351447	-1.726304	0.0997
R ² = 0.47	\bar{R}^2 = 0.45	F = 1.25236	D.W. = 1.51

Source: Author's computations 2021. Note: * at 5% level of sig

The Long Run Relationship

The long run behaviour of performance of the Nigerian insurance sector and monetary policy variables may be analyzed by OLS estimation. The result in Table 4.4 has a very impressive goodness of fit information. The R squared value of the ISPER equation is about 0.69 percent showing that the explanatory variables in the model effectively tract the long run variations in the dependent variable. Even the adjusted R squared value of 0.63 is also very high, indicating that the model possesses a good predictive ability. The F-values of 10.644 is also high and significant at the 1 percent level.

Table 5. The Long Run Model of Monetary Policy Instruments and Insurance Sector Performance in Nigeria (OLS)

Variable	Coefficient	T-Ratio	Prob.
Constant	-0.129203	-2.074618	0.0473
MPR	0.014376	3.450652	0.0018**
CRR	0.016747	2.141327	0.0411*
RREQ	-4.59E-05	-1.084207	0.2875
MRR	0.009418	2.295671	0.0294*
INTR	-0.001699	-1.569304	0.1278
M2	7.31E-06	1.051684	0.3019
R ² = 0.69	\bar{R}^2 = 0.63	F = 10.644	D.W. = 1.71

Source: Author's computations 2021. Note: * at 1% level of sig, ** at 5% level of sig.

In particular, we focus attention on the individual coefficients of the explanatory variables. In the result, the coefficient of monetary policy interest rate (MPR) has significant positive effect on Insurance sector performance, as it passes the 1 percent significance level. This suggests that in the determination of insurance sector performance in Nigeria, monetary policy interest rate which represents the interest rate set by monetary authority (CBN) in order to influence other monetary variables in the economy is a potent factor to be considered in this direction. Indeed, the result revealed that as MPR increases, insurance sector performance increased by 0.014376 percent. This result agrees with those of Beck and Webb (2003), Macfubara, Norteh and Gberesuu (2018) who found that monetary policy rate has significant positive and moderate effect on return on equity of the insurance firms and life insurance penetration in the long run. The finding however disagree with the findings of Onafalajo (2019) who concluded that monetary policy

adversely affect underwriting performance, as well as those of Pelizzon and Sottocornola (2018) who found that monetary policy has a moderate negative effect on the insurance industry performance.

The coefficient of cash reserve ratio (CRR) is also positively signed and passes the 5 percent significance level, implying that the variable significantly and positively impact insurance sector performance within the period of investigation in Nigeria. Indeed, as CRR increases insurance sector performance also increase by approximately 0.016747 percent. It means that the percentage of cash required to be kept in reserves as against the bank's total deposits, significantly impact insurance sector performance. This is rather unexpected because, ordinarily, as banks keep more cash with the Central Bank, their ability to support the insurance sector by way of loans should be weakened. But in this study, it turns out to be opposite probably because, deposit money banks apart from complying by the CRR as directed by the monetary authority, still have enough loanable funds (excess cash) from where it is still able to service the insurance sector.

The coefficient of minimum rediscount rate (MRR) has significant positive relationship with insurance sector performance. Thus, this variable is a significant factor in the determination of insurance sector performance in Nigeria in the period under review. The other hypothesized variables such as money supply (M2) and interest rate (INTR) failed the 5 percent significance level. This means that these variable do not have significant impact on insurance sector performance in Nigeria. This finding therefore aligns with the studies of Chizoba and Nnamocha (2018) who submitted that interest rate has an insignificant effect on total profit of insurance industry, and those of Macfubara, Norteh and Gberesuu (2018), that money supply and monetary interest rate do not have significant impact on the performance of insurance sector. The finding however agrees in part with the submissions of Pelizzon and Sottocornola (2018), that monetary policy interventions on interest rates on the announcement days and on the subsequent reactions of the markets in general affect (re)insurers performance; as well as those of Beck and Webb (2003) and Onafalajo (2019) who concluded that interest rate affect life insurance penetration, and those of Onafalajo (2019), that monetary policy interest rate adversely affect underwriting performance.

The DW statistic value of 1.71 shows the absence of autocorrelation problem in the model. This suggests that the long run model estimates are reliable for appropriate policy decisions.

Conclusion

The role of Monetary policy in insurance business and the economy in general cannot be under estimated because, "it is the macroeconomic policy laid down by the monetary authority which involves management of money supply, interest rate and other related monetary policy factors employed by the government to achieve macroeconomic objectives like price stability, consumption, growth and liquidity". It was on the basis of this that the study empirically examine the role of monetary policy in relation to the performance of insurance sector in Nigeria for the period 1985 to 2021. The error correction model (ECM) and the cointegration econometric technique were employed and the empirical findings revealed that in the short run, "all the hypothesized monetary policy variables (monetary policy rate, cash reserve ratio, reserve requirement, minimum rediscount rate, money supply and interest rate) failed the 5 percent significance level, suggesting that they do not have significant effect on insurance sector performance in Nigeria in the short run". On the other hands, the results of the long run model indicate that monetary policy rate, cash reserve ratio and minimum rediscount rate have significant positive relationship with insurance sector performance. However, those of reserve requirement, money supply and interest rate do not have significant relationship with the performance of insurance sector in Nigeria within the period of investigation.

Recommendations

Based on the findings of this study, the following salient recommendations are made: First; since the result from the study has shown that Monetary policy rate significantly impact insurance performance, it therefore follows that activities of insurance firms as well as their overall performance can be adversely impacted by monetary policy decisions if not proactively prepared for and responded to. To this end, management should evolve appropriate strategy that would enable them proactively tackle unfavourable business environment resulting in macroeconomic risks in order to avoid adverse operating losses. Secondly, effective management of interest rate should be the central focus of monetary authority in Nigeria in order to mitigate performance shocks. The reason being that, in this study, interest rate was negative but does not significantly affect insurance performance. They must constantly ensure that the right investment friendly interest rate that will enable insurance businesses to thrive should be vigorously pursued.

References

- Adegbite, T. A., & Alabi, W. O., (2013). Monetary policy and economic growth: The Nigerian experience (1970-2010), *Prime Journal of Business Administration and Management*, 3(1), 822-833.
- Adigwe, P. K., Ehekoba, F.N., & Justus, B.C. O. (2015). Monetary policy and economic growth in Nigeria: A Critical Evaluation. *IOSR Journal of Business and Management*, 17(2), 1-16.
- Adesoye, A. B, Maku, O. E., & Atunda, A. A. (2012), Is monetary policy a growth stimulant in Nigeria? A Vect Autoregressive Approach. *Munich Personal RePEc Archive (MPRA)*. Paper No. 35844, 1-24.
- IAIS (2011). *Insurance and Financial Stability*. November 2011, 1-10.

- Ajayi, S.I., & Ojo, O. (2014). *Money and Banking: Analysis and Policy in the Nigerian Context*. Allen and Unwin, London, 274.
- Akhtar, M. H. (2018). Performance analysis of Takaful and conventional insurance companies in Saudi Arabia. *Benchmarking: An International Journal*, 25(2), 677–695.
- Bank of England (2014). *Procyclicality and structural trends in investment allocation by insurance companies and pension funds*. Discussion Paper by the Bank of England and the Procyclicality Working Group, July 2014, 1-18.
- Beck, T., & Webb, J. (2003). Economic, demographic, and institutional determinants of life insurance consumption across countries. *The World Bank Economic Review*, 17(1), 51-88.
- Ben-Dhiab, L. (2021). Determinants of insurance firms' profitability: An empirical study of Saudi insurance market. *Journal of Asian Finance, Economics and Business*, 8(6), 235-243.
- Cai, J. (2016). The impact of insurance provision on household production and financial decisions. *American Economic Journal: Economic Policy*, 8(2), 44–88.
- Chizoba, E.P., & Nnamocha, P.N. (2018). Effect of interest rate on profit of insurance companies in Nigeria. *International Journal of Management and Social Sciences*, 6(7), 233 – 246.
- Christoffersen, C., & Zschiesche, J. (2018). Macro-prudential objectives and instruments for insurance –an initial discussion. *EIOPA Working Paper Series*, 72-90.
- Doherty, N.A., & Garven, J. R. (1995). Insurance cycles: Interest rates and the capacity constraints model. *The Journal of Business*, 68(3), 383-404.
- Dube, M. M., & Saka, H. (2017). An analysis of factors affecting the performance of insurance companies in Zimbabwe. *Journal of Finance and Investment Analysis*, 6(1), 45-69.
- Einsig, P. (1954). *How Money is Managed: The Ends and Means of Monetary Policy*. Penguin Books.
- Fischer, I. (1971). *The purchasing Power of Money*, New York, Augustus M. Kelly, Reprints of Economic Classics
- Fischer, S. (1990). Rules versus Discretion in Monetary Policy, in *Handbook of Monetary Economics*, ed., 1156-84. Amsterdam: North Holland.
- French, A., Vital, M., & Minot, D. (2015). Insurance and financial stability. *Bank of England Quarterly Bulletin*, 2015 Q3, 242–258.
- Guendouz, A. A., & Ouassaf, S. (2018). Determinants of Saudi Takaful Insurance Companies Profitability. *Academy of Accounting and Financial Studies Journal*, 22(5), 1–24.
- Hodula, M., Janků, J., Časta, M., & Kučera, A. (2021). On the macro-financial determinants of life and non-life insurance premiums. *Geneva Pap Risk Insurance Issues Practice*, 1-39.
- Loriana, P., & Matteo, S. (2017). The impact of the monetary policy interventions on the insurance industry. *EIOPA Working Paper Series*, 72-97.
- Macfubara, M.S., Norteh, D., & Gberesuu, B.B. (2018). Monetary policy and return on equity of quoted insurance firms: a time series study from Nigeria. *American Finance & Banking Review*; 2(1), 64-78.
- Moro, O., & Anderloni, L. (2014). Non-life insurance economic performance; an empirical investigation. *Journal of Economics & Management*, 18, 159–177.
- Nino D. (2016). How do insurer specific indicators and macroeconomic factors affect the profitability of insurance business? A panel data analysis on the Philippine non-life insurance market, 1-15.
- Oke, O.B., Ideji, O.J., & Joseph, I.A. (2010). The determinants of life insurance consumption in Nigeria: A co-integration approach. *International Journal of Academic Research*, 2(4), 109-123.
- Olotu, E., & Makinwa, D. (2019). An overview of the recapitalization in the Nigerian insurance industry. *George Etomi and Partners*, 1-5. Retrieved on 20/03/2022 from <https://www.lexology.com/library/detail.aspx?>
- Onafalujo, A.K. (2019). Underwriting performance shocks in the non-life Nigerian insurance industry and macroeconomic risks: A Vector Auto Regressive Approach. *Economics and Organization*, 16(2), 129 – 144.
- Onoh, J. K. (2002). *Dynamics of Money Banking and Finance in Nigeria. An emerging market*. Astra Meridian Publishers, Aba, Nigeria.
- Patat, J. (1987). *Monnaie, Institution Financières et Politiques monétaires*. Economica.
- Pelizzon, L., & Sottocornola, M. (2018). The impact of monetary policy interventions on the insurance industry. *SAFE Research Quarter 3/2018*, 1-16.
- Rathburn, P. (2021). *Monetary Policy; Federal Reserves*. Investopedia, 1-6.
- Warin, T. (2005). *Monetary Policy: From Theory to Practices*. Middlebury College Economics Discussion Paper No. 05-08, 1-24.
- Weiss, M.A. (2007). Underwriting cycles: A synthesis and further directions. *Journal of Risk and Insurance*, 30(1), 31- 45.