IMPACT OF INFLATION ON INSURANCE GROWTH IN NIGERIA

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ABSTRACT

This research explored the impact of inflation on the growth of insurance in Nigeria from 2000-2022. With the specific goals of evaluating the impact of inflation on total claims, total assets, and total premiums of insurance companies in Nigeria. In order to arrive at our findings, the study developed three questions and hypotheses that were consistent with study objectives. Utilizing secondary time series data, the research employed the ex-post facto research design. The data for the study were sourced from CBN and NAICOM publications. Descriptive statistics, the Augmented Dickey-Fuller unit root test, and the ARDL model was used. The study found that the rate of inflation does not significantly impact the total premiums, total assets, and total claims paid by insurance companies in Nigeria. Accordingly, the researcher recommended that the government collaborate with the insurance sector to launch a mandatory insurance programme that would bring in consistent revenue for the sector. Effective controls should be put in place by central banks to guarantee that inflation has no negative impact on a company's investments, profitability, or financial performance. Regulations should be imposed in terms of the cost of insurance and claims settlements which may help insurance companies lower the cost of claims paid during inflationary periods.

KEYWORDS: *Inflation, Insurance, Premium, Assets, Claims.*

INTRODUCTION
1.1 Background to the study
Inflation, according to Balami (2006), is the gradual upsurge in the typical price of a extensive variety of products and services. It is calculated as the rate increment in average prices over a given time period. Neoclassicists at the University of Chicago and its adherents contend that monetary considerations are the primary cause of inflation. Friedman Johnson (1996) defines inflation as a continuous surge in the prices of commodities and services. He expresses this perspective by saying, "Inflation is always and everywhere a economic phenomenon, and is caused when there is a quicker increase in the money supply and there is less production."

Nigeria is one of the economies globally affected by this phenomenon. Nigeria, having one of the biggest economies in Africa, has seen significant economic volatility, including pressure from inflation. Inflation has an impact on many industries, including insurance, in addition to consumer goods and services. Insurance is crucial in managing risk as it gives individuals and companies financial stability. However, underlying economic conditions, especially inflation, can have a major impact on the insurance sector's growth and success.

Inflation affects people and companies purchasing power, which has an effect on priorities and financial performance. As a result, demand, penetration, and total growth for insurance are all immediately impacted by this. An increase in insurance rates is one of the main effects of inflation in the expansion of the insurance industry. When there is inflation, operating costs, salaries, and reinsurance premiums rise, making it more expensive for insurers to provide coverage. As a result, insurers may raise rates to cover these increased expenses from policyholders. This could deter prospective clients from getting insurance or cause current policyholders to cut back on coverage, which would hinder the expansion of the insurance industry as a whole. In addition, inflation has the power to influence consumer demand for insurance goods. People and businesses may gravitate towards insurance solutions that protect against price increases and economic instability during periods of high inflation. For example, demand for property and liability insurance may increase in anticipation of real estate value variations, while demand for health insurance may increase as medical expenditures rise. The changing needs for

continuous expansion need insurers to customize their product offerings. Inflation also affects the investment portfolios of insurers. Interest rates may rise in response to inflationary pressures, which may affect insurers' bond investment returns. As a result, insurers may have to modify their investment strategies in order to counteract lower profits, which may have an impact on their profitability and ability to provide competitive insurance products. Elevated inflation may also result in higher claims expenses for insurance companies to pay.

1.2 Statement of The Problem
For the insurance sector, legislators, and other stakeholders, the potential effect of inflation on the growth of insurance poses a complicated set of issues in Nigeria. Inflation has a substantial impact on people's financial choices and behaviours as it reduces their purchasing power. This has an effect on insurance demand, penetration, and overall growth. It is imperative to comprehend and tackle the particular issues that stem from this association in order to formulate efficacious tactics that guarantee the robustness and enduring expansion of the insurance industry in Nigeria. Elevated inflation will result in higher expenses for insurers, encompassing reinsurance premiums, operational costs, and salary. Consequently, insurers might raise premiums to cover these increased expenses from policyholders. This presents a problem for insurance firms since it could deter prospective customers from getting insurance or cause current policyholders to cut back on their coverage because of affordability concerns. Insurance firms' investment portfolios may be impacted by high inflation. Increased interest rates may result from higher inflation rates, which would impact insurers' earnings on investments. Consequently, insurers could have to modify their investment tactics, which could have an effect on their financial performance and capacity to offer competitive insurance products. Elevated inflation can also result in elevated expenses for settling claims, thus presenting a difficulty for insurance providers.

2.0 LITERATURE REVIEW
2.1 THEORETICAL FRAMEWORK
2.1.1 MODERN PORTFOLIO THEORY
Established by Harry Markowitz in 1952, Modern portfolio theory is all about the reducing of the risk for an identified rate of return, or maximize projected returns to earn a given degree of portfolio risk, by carefully choosing the ratios of various assets. While admitting the existence of both systematic and non-systematic hazards, MPT places an emphasis on maximizing returns while avoiding risks (Suheyli, 2015). According to Markowitz contemporary portfolio theory, investors ought to decide on a portfolio risk that will achieve the peak possible return for a certain level of risk or ensuring minimal risk for a specific return. Risk and predicted return on the value of an asset are positively associated (Sadiye, 2014). Modern portfolio theory offers a detailed framework when analyzing links between systematic risks and returns. MPT assumes that a well-diversified portfolio reduces unsystematic risks, which microeconomic characteristics specific to a firm or business. Portfolio diversification does not eliminate systemic risk, which macroeconomic factors primarily drive. Thus, the risk and return on a portfolio with diversity are determined by both local and worldwide financial and economic conditions (Erdugan, 2012). Insurance firms, which are businesses as well as themselves, also invest in diverse portfolios to decrease the risk and maximize profits on many investment options available. When picking investment portfolios, insurance firms should consider the worth of future earnings (Suheyli, 2015).

2.2 EMPIRICAL REVIEW
Duruechi (2021) examined how inflation influenced Nigeria's general insurance business from 1996 to 2018 using secondary data. The study, using OLS regression, discovered that the inflation rate had no detectable effect on total assets, total claims, or total premiums in Nigeria's nonlife insurance market. The research concluded that inflation rates did not significantly harm the nonlife insurance and recommended collaboration with financial institutions to maximize the sector's potential.

Ehiogu (2018) looked into how the insurance penetration rate in Nigeria's insurance market related to inflation. The study employed regression analysis to determine that the inflation rate had minimal influence on insurance penetration. Inflationary pressures boosted insurance uptake, although the rise was modest. The report suggested actions to lower Nigeria's inflation rates in order to increase the country's insurance penetration.

Nwite (2018) investigated how inflation rate affects the diffusion of insurance in the Nigerian. Regression analysis revealed a positive, albeit small, the link between insurance penetration and inflation rates. Although there was not a substantial effect, inflation increased the prevalence of insurance. The report recommended actions to bring Nigeria's inflation rates down in order to have a bigger influence on the penetration of insurance.

Asinya (2018) using UECM and ARDL model, investigated the affiliation between insurance claims and inflation rate in Nigeria from 1981-2016. The study discovered a long-term link between inflation and insurance claims, with short-term increases in inflation driving up the cost of insurance claims initially but eventually falling.

3.0 METHODOLOGY

The ex-post facto research design was adopted in this research. Using secondary time series data from 2000-2022, which covered a 23-year period was employed in this study. The research data was attained from National Insurance Commission Yearly Statistics Publications as well as CBN Annual Bulletins publications. The inflation rate was employed as explanatory variable, whereas insurance premiums, claims, and total assets were used as dependent variables. The results were determined employing the Augmented Dickey-Fuller unit root test, descriptive statistics, and ARDL Model.

The model's functional relationship of the variables is given as:

TIA= f(INF) ………..(1)
TIC= f(INF) …………(2)
TIP= f (INF)……………(3)

The model's linear function is stated as:

TIAt = β0 + β1INFt + μt
TIC¬t = β0 + β1INFt + μt
TIPt = β0 + β1INFt + μt

Where

TIA	=	Total assets
TIC	=	Total claims
TIP	=	Total premiums
INF	=	Inflation rate,
B0	=	constant parameter,
B1	=	coefficient parameter of INF,
μ	=	error term

4.0 DATA ANALYSIS AND PRESENTATION

Table 4.1 DATA OF INFLATION RATE, TOTAL ASSETS, TOTAL PREMIUM AND TOTAL CLAIMS FROM 2000-2022

Year	TI Assets	TIP	TI Claims	INF Rate
2000	61,600.56	22,531.50	5,620.52	14.5
2001	78,060.43	28,981.30	6,110.89	16.5
2002	85,255.23	37,765.90	6,856.15	12.2
2003	124,267.45	43,944.70	9,415.20	23.8
2004	141,222.65	50,495.90	12,084.04	10
2005	203,113.90	67,746.30	12,402.40	11.6
2006	307,543.67	82,361.90	76,276.11	8.5
2007	427,497.54	121,653.69	34,422.75	6.6
2008	573,154.66	187,941.72	48,960.23	15.1
2009	586,460.55	226,793.83	74,439.37	13.9
2010	585,016.32	243,415.17	70,041.14	11.8
2011	621,095.80	291,749.03	81,020.36	10.3
2012	710,627.78	302,339.85	74,015.56	12
2013	793,879.74	276,384.77	107,304.54	7.96
2014	827,530.12	281,840.43	99,156.81	7.98
2015	917,252.13	289,341.48	111,169.29	9.55
2016	1,016,875.92	326,114.02	145,838.34	18.55
2017	1,128,473.90	372,358.42	186,448.03	15.37
2018	1,329,946.00	426,210.93	252,190.21	11.4
2019	1,525,102.40	508,230.05	225,171.29	11.98
2020	2,052,223.00	514,587.85	247,234.93	15.75
2021	2,221,747.40	631,415.72	323,804.65	15.63
2022	2,328,765.45	726,299.53	318,234.56	21

Source: CBN Statistical Bulletin, 2022; and NAICOM Annual Report 2022.

4.2 Descriptive Statistic

The descriptive statistic of the data is shown on the table below

Table 4.2 Descriptive Statistics

	INF_RATE	TI_ASSETS	TI_CLAIMS	TIP
Mean	13.14391	810726.6	109922.5	263500.2
Median	12.00000	621095.8	76276.11	276384.8
Maximum	23.80000	2328765.	323804.7	726299.5
Minimum	6.600000	61600.56	5620.520	22531.50
Std. Dev.	4.290491	683862.8	101303.5	199375.4
Skewness	0.728322	0.944075	0.859008	0.644688
Kurtosis	3.169229	2.939728	2.544302	2.675982
Jarque-Bera	2.060847	3.420048	3.027606	1.693835
Probability	0.356856	0.180861	0.220071	0.428734
Sum	302.3100	18646713	2528217.	6060504.
Sum Sq. Dev.	404.9829	1.03E+13	2.26E+11	8.75E+11
Observations	23	23	23	23

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4.2.2 Result of ADF Unit Root Test

Variables	ADF Test Statistic (P-Value)	Critical Values at 5%	Decision	Order of Integration
INF Rate	-3.387401 (0.0228)	-3.004861	Stationary at level	1(0)
Total Assets	-6.111644 (0.0001)	-3.020686	Stationary at second difference	1(2)
Total Claims	-5.818438 (0.0001)	-3.012363	Stationary at first difference	1(1)
Total Premium	-7.453958 (0.0000)	-3.004861	Stationary at second difference	1(2)

Source: Author's Computation, E-views 9

4.3 Estimated Regression Results Using ARDL Model

Table 4.3 ARDL Result TIP

Dependent Variable: TIP
Method: ARDL
Date: 07/28/23   Time: 16:49
Sample (adjusted): 2001 2022
Included observations: 22 after adjustments
Maximum dependent lags: 4 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (4 lags, automatic): INF_RATE
Fixed regressors: C
Number of models evalulated: 20
Selected Model: ARDL(1, 0)
Note: final equation sample is larger than selection sample

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
TIP(-1)	1.097056	0.037601	29.17652	0.0000
INF_RATE	1630.626	1510.654	1.079417	0.2939
C	-12875.36	20773.88	-0.619786	0.5428
R-squared	0.979631	Mean dependent var		274453.3
Adjusted R-squared	0.977487	S.D. dependent var		196857.1

S.E. of regression	29536.97	Akaike info criterion	23.55080
Sum squared resid	1.66E+10	Schwarz criterion	23.69958
Log likelihood	-256.0588	Hannan-Quinn criter.	23.58584
F-statistic	456.9012	Durbin-Watson stat	1.901892
Prob(F-statistic)	0.000000		

Source: Researcher Computation, Using Eviews9

Table 4.3.1 ARDL Result, TI_ASSETS

Dependent Variable: TI_ASSETS
Method: ARDL
Date: 07/28/23   Time: 17:09
Sample (adjusted): 2001 2022
Included observations: 22 after adjustments
Maximum dependent lags: 4 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (4 lags, automatic): INF_RATE
Fixed regressors: C
Number of models evaluated: 20
Selected Model: ARDL(1, 0)
Note: final equation sample is larger than selection sample

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
TI_ASSETS(-1)	1.101450	0.036925	29.82958	0.0000
INF_RATE	-1183.188	5162.766	-0.229177	0.8212
C	43283.57	68206.32	0.634598	0.5333

R-squared	0.980836	Mean dependent var	844777.8
Adjusted R-squared	0.978819	S.D. dependent var	679706.0
S.E. of regression	98922.26	Akaike info criterion	25.96818
Sum squared resid	1.86E+11	Schwarz criterion	26.11696
Log likelihood	-282.6500	Hannan-Quinn criter.	26.00323
F-statistic	486.2280	Durbin-Watson stat	1.730720
Prob(F-statistic)	0.000000		

Source: Researcher Computation, Using Eviews9

Table 4.3.2 ARDL Result, TI_CLAIMS

Dependent Variable: TI_CLAIMS
Method: ARDL
Date: 07/28/23   Time: 17:10
Sample (adjusted): 2003 2022
Included observations: 20 after adjustments
Maximum dependent lags: 4 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (4 lags, automatic): INF_RATE
Fixed regressors: C
Number of models evalulated: 20
Selected Model: ARDL(3, 0)
Note: final equation sample is larger than selection sample

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
TI_CLAIMS(-1)	0.429158	0.234666	1.828798	0.0874
TI_CLAIMS(-2)	0.228402	0.286489	0.797248	0.4377
TI_CLAIMS(-3)	0.567986	0.281187	2.019956	0.0616
INF_RATE	-488.8643	1515.079	-0.322666	0.7514

C	16624.11	19584.76	0.848829	0.4093

R-squared	0.940182	Mean dependent var	125481.5
Adjusted R-squared	0.924230	S.D. dependent var	99644.77
S.E. of regression	27428.57	Akaike info criterion	23.48888
Sum squared resid	1.13E+10	Schwarz criterion	23.73781
Log likelihood	-229.8888	Hannan-Quinn criter.	23.53747
F-statistic	58.93973	Durbin-Watson stat	2.035735
Prob(F-statistic)	0.000000		

Source: Researcher Computation, Using Eviews9

4.4 DISCUSSION OF THE FINDINGS

From table 4.1, the data have a sample size of 23 observations for the period of 2000 to 2022. From the descriptive statistics Inflation rate has the mean value 13.14391, the median value 12.00000 and the maximum and minimum values stood at 23.80000 and 6.600000 respectively. Total insurance assets have a mean and median values of 810726.6 and 621095.8 respectively and maximum and minimum values of 2328765. then 61600.56 correspondingly. The mean value of total insurance claims stood at 109922.5 with a median value of 76276.11, while maximum have a value of 323804.7 and a minimum value stood at 5620.520. The values of the mean, median, maximum and minimum of total insurance premiums stood at (263500.2), (276384.8), (726299.5), (22531.50) respectively. The standard deviation of all the variable is lower compared with their mean values. The distribution is positively skewed with the inflation rate having a value of 0.728322, total assets stood at 0.944075, total claims at 0.859008 and the total premium at 0.644688. The inflation rate, total assets, total claims and total premium have Kurtosis values of (3.169229), (2.939728), (2.544302) and(2.675982) respectively.

The augmented dickey-fuller unit root test shows the inflation rate is stationary at level, total assets at order two (2), total claims at order one and the total premium also stationary at the second order. Hence, the ARDL is used for the regression.

INF_RATE indicates a positive coefficient of 1630.626 and the probability value 0.2939 according to the analysis shown in Table 4.3. INF_RATE has a positive coefficient value, but for it to be significant, its probability value must be more than 0.05 level. Additionally, the values of the R-squared 0.979631 shows INF_RATE influences the total premiums (TIP) that insurance companies in Nigeria generate by 0.979631 units. The model appears to be fit, as shown by the Adjusted R-squared of 0.977487. Prob (F-statistic) 0.000000 shows there is a level of significance at a constant in the model. Hence, It is concluded that a positive connection was established concerning inflation rate and total insurance premium generated but its impact was not significant.

The table 4.3.1 indicates that INF_RATE has a negative coefficient value -1183.188, and the probability value 0.8212. INF_RATE has a negative coefficient value, indicating a negative impact, its probability values is also more than the 0.05 level to be significant. The R-squared value of 0.980836 indicates that INF_RATE accounts for 0.980836 units of the change in total assets (TI_ASSETS) of Nigerian insurance companies. The model demonstrates good fit, as demonstrated by the Adjusted R-squared value of 0.978819. The Prob(F-statistic) 0.000000 shows a level of significance at a constant in the model. Consequently, it is concluded that though an adverse relationship between inflation and total assets was found, the effect was not significant.

The data in Table 4.3.2 shows INF_RATE has a negative coefficient value of -488.8643 with the probability value which stood at 0.7514 is above the 0.05% required to be significant. The R-squared value of 0.940182 implies that INF_RATE accounts for 0.940182 of the change in total claims (TI_CLAIMS) paid by insurance firms in Nigeria. Also, adjusted R-squared with the value 0.924230 shows the model is fit. The model is significant at a constant with Prob (F-statistic) value 0.000000. Thus, it may be inferred that although there was a negative correlation found, it did not have a significant consequence on the total amount of claims paid.

Nwite (2018) found similar results in his study, which shows the inflation rate had a favourable and inconsequential impact on the penetration of insurance in Nigeria. According to Ehiogu (2018), the inflation rate had a positive impact, but it did not significantly affect the penetration of the insurance market in Nigeria. Duruechi (2021) found that the nonlife insurance industry in Nigeria did not see a substantial impact from the inflation rate on total premiums, total claims, or total assets.

CONCLUSION AND RECOMMENDATIONS

Inflation's worrisome impact on the level of prices is well known. Growth, financial performance and stability, assets and investment for businesses, corporations, individuals, and the economy at large could all be hampered by this. This prompted research on how inflation affects the expansion of insurance in Nigeria. The research highlights that inflation had no discernible consequence on the total amount of premiums generated, total assets, or total claims paid by insurance companies in Nigeria. However, it does find a correlation between the rate of inflation and the growth of insurance companies.

Informed by its findings, study recommendations are:

1. To ensure consistent premium income in the insurance industry, the government should collaborate with the insurance sector to implement mandatory insurance programs. Cost-controlling measures should also be implemented during inflationary periods.
2. The report suggests that central banks establish effective systems to alleviate the adverse impact of inflation on business investments, profitability, and financial performance.
3. Although inflation did not significantly affect overall claims paid by the insurance industry, the study found a negative association between the two. To help insurance companies reduce the cost of claims paid during inflationary periods, the study recommends establishing regulations on insurance costs and claims settlements.

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