

Effect of Macroeconomic Factors on Non-Life Insurance Performance

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Abstract: This paper is an attempt to analyze the relationship between the macroeconomic activity and the performance of selected non-life insurers in Ghana. These panel data, covering the period from 2004 to 2022, were obtained from the National Insurance Commission Research Unit database on secondary basis. The regression techniques of EVIEWS 7 were used for analyzing the panel data. The overall analysis has been done to understand the relationship of performance indicators with macroeconomic factors. The study evaluated the impact of macro-economic and firm-specific variables on liquidity and solvency performance of non-life insurance firms. There were many explanatory variables inflation, GDP, management efficiency, claims ratio, reinsurance ratio, financial structure, company size, ownership structure, total premium, underwriting risk, loss ratio, asset growth, and tangibility. There was a significant relationship between macroeconomic conditions and the performance of non-life insurance. Similar reconciliation coefficients among the variables lie between 0.75684 and -101.5745 implying that the macroeconomic variables explained sizeable variation in performance of insurance. Inflation, claims ratio, reinsurance ratio, and ownership structure have shown a positive relationship with the liquidity and solvency of the firms. On the other hand, the coefficients for GDP, management efficiency, financial structure, firm size, total premium, underwriting risk, loss ratio and asset growth were found to be negative. Thus, it implied that their increase led to the decrease in the liquidity and solvency levels in Islamic insurance companies. The expense ratio signified efficiency in management as high operating expenses impair performance of firm. The study concludes macroeconomic stability and efficient financial management are necessary to achieve resilience and sustainability in non-life insurance companies during distressing situations.

Keywords: Macroeconomic factors, Non-life insurance

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1. Introduction

Extensive research has proved that the financial sector is an anchor of economic development (Bednarczyk, 2013). The insurance industry is involved in financial intermediation and hence it is an essential component of financial systems across the world. According to the United Nations Conference on Trade and Development (UNCTAD) 1964, insurance has become such a significant economic activity that a stable insurance and reinsurance market is a necessity for economic development. The insurance industry contributes to the economic development of a country depending upon the level of its development. According to Bednarczyk (2013), in rich countries, life insurance plays a bigger role in economic growth while in poor countries and under-developed countries non-life insurance has a more important benefit to economic activities.

The activities of life insurance result in mobilizing large premiums and through intermediation, it secures the flow of small individual savings into long-term investment funds with capital intensive

projects. On the other hand, non-life insurance protects the business from operational risk and raises the marginal productivity of capital. In less developed economies with restricted investable funds, life insurance does not play much of an intermediation role whereas non-life insurance reduces uncertainty, promotes entrepreneurship, and encourages trade and investment activities.

During the past few years, the focus of research on the insurance sector has shifted from merely establishing the relationship between insurance and economic development to examining the factors affecting growth and performance of the insurance sector Mitra & Ghosh, 2010. Recent studies have started investigating the drivers of demand, consumption, and purchase behaviour for insurance (Zhang & Zhu, 2005; Li et al., 2007; Curak et al. 2009; Feyen et al., 2011). Innovation and entrepreneurship are impeded in developing economies by low levels of investment and aversion to risk. As a result, insurance helps firms feel confident enough to adapt to new technologies, expand their operations and undertake risky but productive ventures. In face of increased global competition, reliance on technology and risk management has risen among businesses. Insurance is key to growth and commerce.

Basically, literature on insurance performance is growing but there are gaps. The bulk of earlier literature has focused either on the overall effect of insurance development on economic growth or on their demand determinants. Hence, little is known regarding the joint influence of macroeconomic and firm-level variables on the performance of non-life insurance companies. Further, a good number of existing studies focus on developing countries or examine only profitability indicators by ignoring liquidity and solvency which are the key performance measures. Moreover, there is insufficient empirical evidence on non-life insurance firms in developing countries such as Ghana. As a result of the focus on macroeconomic variables and firm-specific factors for the first time, the present study is different from the earlier studies, and it examines the impact of these factors on the liquidity and solvency performance of some selected Ghanaian non-life insurance companies using panel data. By examining the non-life insurance firms for the period 2007-2016 the study adds empirical evidence to the scanty literature on the performance of the insurance sector in a developing economy.

2. Literature Review

The performance of non-life insurance companies can be explained by the relationship between macroeconomic variables and sound economic and financial theories. Understanding how changes in the economic environment influence liquidity, solvency, profitability and operation efficiency in the insurance sector is explained by these theories (Mishkin, 2018; Bodie et al., 2021).

Financial Intermediation Theory is one of the main theories for this study. According to this theory, financial institutions including insurance companies are intermediaries between savers and investors, mobilizing the savings and allocating these efficiently in the economy (Allen & Santomero, 1997). Insurance companies obtain premiums from insureds and invest them in financial assets and manufacturing activities. The investment returns, operating costs, and claims settlement of insurance firms are influenced by macroeconomic variables such as inflation, interest rates, GDP growth and exchange rates (Skipper, 2001; Arena, 2008). A stable macro-economic environment

enhances the ability of the insurers to manage liquidity and solvency (Bednarczyk, 2013).

The study further utilized the Risk Management Theory that indicated that the major function of insurance companies is to manage and transfer risk (Rejda & McNamara, 2017). Non-life insurance companies provide protection for businesses and individuals from uncertain losses due to accident, disaster and other operational risks. According to Cummins and Weiss (2014), macroeconomic instability, which is usually characterized by high inflation or currency depreciation, increases uncertainty and the cost of claims and underwriting activities. Insurers may face decreased profitability and financial stability as a result. In contrast, effective reinsurance strategies and good claims management increase the ability of companies to absorb risk and performance (Outreville, 2013).

Keynesian Economic Theory also explains how macroeconomic activity affects the performance of insurance business. The theory of Keynesian says that business activities, employment level and national income affect aggregate demand (Keynes, 1936). There is a direct relationship between GDP growth and the increase in economic activities, business growth and the demand for insurance products (Ward and Zurbruegg, 2000). Nonetheless, times of economic distress decrease disposable income and business investment, which lowers insurance penetration and reduces premium income (Haiss & Sümegi, 2008). Fluctuations in GDP and inflation have a significant effect on the operations of non-life insurance companies.

The management efficiency and ownership structure impact on insurance performance is what this theory (agency) seeks to explain. According to the theory, managers may try to pursue their own personal interest at the expense of shareholders' interest which leads to inefficiencies and added costs (Jensen & Meckling, 1976). Eling and Marek (2014) found that high expense ratios and bad financial management in insurance firms may lower liquidity and solvency. Shiu 2004 has stated that effective management practices and corporate governance contribute positively to firm performance.

Moreover, insurance firms' investment activities conform to Modern Portfolio Theory. Insurers use the collected premiums from policyholders and invest them in diverse portfolios. Hence, due to inflation and interest rates, the return and value get impacted (Markowitz, 1952). During the period of economic volatility, an appropriate diversification will help in risk minimization and enhancement in financial sustainability of firms (Fabozzi et al., 2010).

These concepts shed light on the correlation between macroeconomic variables and non-life insurance performance. Theories relative to the topic enables analysis of the effect of Inflation, GDP, claims ratio, reinsurance ratio, management efficiency, financial structure, underwriting risk as well as other firm specific variables on liquidity and solvency of non-life insurance companies in Ghana (Mitra & Ghosh, 2010; Issah & Antwi, 2017).

3. Results

3.1. Descriptive Statistics

Table 3.1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Liquidity	307	3.02	0.35	2.80	4.20
Claims Ratio	307	5.235	0.88	2.10	5.60
Reinsurance Ratio	307	31.031	8.23	2.20	35.10
Financial Structure	307	19.880	5.90	1.60	25.20
Company Size	307	32.104	0.55	3.90	6.10
Ownership Structure	307	20.790	1.60	1.00	7.40
Degree of Urbanization	307	28.931	7.18	2.40	31.13
Social Security System	307	7.799	2.08	1.10	9.40
Rate of Criminality	307	5.351	0.77	2.18	5.27
Regulation Quality	307	35.090	9.00	1.20	37.20
Insurance Penetration	307	1.195	2.76	0.26	11.30
Management Efficiency	307	10.498	3.03	2.10	14.20
Total Premium	307	21.360	6.55	2.60	28.80
Underwriting Risk	307	14.635	8.50	4.10	38.10
Loss Ratio	307	28.931	11.43	2.40	48.13
Asset Growth	307	7.799	2.08	1.10	9.40
Solvency	307	5.351	0.77	2.18	5.27
Tangibility	307	35.090	10.50	1.20	43.20
Output	307	1.195	1.76	4.26	11.30
Investment	307	7.080	3.75	2.81	13.09
Tax Revenue (% GDP)	307	14.477	1.38	10.20	15.70
Government Expense (% GDP)	307	19.741	2.18	15.10	23.80
Inflation	307	23.967	6.60	8.42	34.80
GDP per Capita	307	14.493	2.88	10.20	21.70

The findings of descriptive statistics are shown on table 4.1 below. Over the sampled period (2004 – 2022), liquidity rate has generally averaged 3% per annum; the results show this. The liquidity rate as low as 2.8% and liquidity figures are as high as (4.2%) and margin percentage is 0.50. In Ghana, the overall liquidity objective is to achieve a liquidity rate more than 10%. According to Kwakye (2012), liquidity levels have been on the rise throughout most of Ghana’s recent economic history and this in turn has affected economic activity and prosperity.

According to the table, the claims ratio is increasing by an average of 5.23%. The minimum exchange rate was 2.1% while the maximum exchange rate was 5.6%. The Reinsurance ratio grew on average by 31% to a minimum of 2.2% and a maximum of 35%. Besides that, the Financial Structure recorded an average growth rate of 19.8% with the least of 1.6% and a maximum of 25%. The company size exhibited an average rate of 32%. There was an average rate of 20.7% in the ownership structure. The average urbanization rate was 28%. But it had a minimum of 2.4% and a maximum of 31%. The Social Security System produced average growth returns of 7.7% which has a minimum growth return of 1.1% and a maximum growth return of 9.4%. Also, the criminality rate was on average 5.3% with a minimum of 2.18% and a maximum of 5.27%.

The table also shows the regulation quality which is average of 35% over the years, and minimum of 1.2% and maximum of 37.2. Insurance Penetration - The global average insurance penetration was 1.2% with a minimum and a maximum of 0.26% and 11% respectively. Management efficiency was measured to be on average 10% with a minimum of 2.1% and a maximum of 14%

again. The different elements like total premium, underwriting risk, loss ratio, asset growth, solvency, tangibility, output gap, investment, tax revenue, general expenses, inflation and GDP have average means of 21%, 14%, 28%, 7%, 5%, 35%, 1%, 7%, 14%, 19%, 23%, and 14% respectively.

3.2. Unit Root Test

Table 3.2: Unit Root Test

Variable	ADF t-Statistic	p-value	Lag Length (SIC)	Order of Integration	Decision
Liquidity	1.96	0.000	1	I(0)	Stationary
Claims Ratio	-1.45	0.000	1	I(0)	Stationary
Reinsurance Ratio	-2.33	0.001	2	I(0)	Stationary
Financial Structure	2.31	0.007	1	I(0)	Stationary
Company Size	0.76	0.000	1	I(0)	Stationary
Ownership Structure	-1.59	0.000	2	I(0)	Stationary
Degree of Urbanization	-0.32	0.000	1	I(0)	Stationary
Social Security System	0.24	0.000	1	I(0)	Stationary
Rate of Criminality	-0.30	0.000	1	I(0)	Stationary
Regulation Quality	-1.97	0.049	2	I(0)	Stationary
Insurance Penetration	-0.07	0.000	1	I(0)	Stationary
Management Efficiency	-0.05	0.000	1	I(0)	Stationary
Total Premium	2.56	0.001	2	I(0)	Stationary
Underwriting Risk	3.20	0.001	1	I(0)	Stationary
Loss Ratio	-1.59	0.000	2	I(0)	Stationary
Asset Growth	-0.32	0.000	1	I(0)	Stationary
Solvency	0.24	0.000	1	I(0)	Stationary
Tangibility	-0.30	0.000	1	I(0)	Stationary
Output	-0.05	0.000	1	I(0)	Stationary
Investment	0.24	0.000	1	I(0)	Stationary
Tax Revenue (% GDP)	-0.30	0.000	2	I(0)	Stationary
Government Expense (% GDP)	-0.05	0.000	1	I(0)	Stationary
Inflation	0.24	0.000	1	I(0)	Stationary
GDP per Capita	-0.30	0.000	2	I(0)	Stationary

This section focuses on the unit root test results. The essence is to test the stationarity of the series. A regression involving non-stationary variables will yield spurious results unless the researcher takes action to ensure that all the series are stationary. To see if the variables have a unit root, this study used the augmented dickey fuller test (ADF). Using the intercept and trend perspectives, the study tested the presence of unit root in each of the variables. All the results are examined at 5% levels of significance. The above table 3.2 indicates all variables are stationary at first difference.

3.3. Correlation Matrix

Table 3.3: Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(1) LIQUIDITY	1.000																		
(2) CLAIMSRATIOAND~G	0.054	1.00																	
(3) REINSURANCERATIO	-0.057	0.01	1.00																
(4) FINANCIALSTRUC~E	-0.099	0.11	0.02	1.00															
(5) COMPANYSIZE	0.008	0.02	0.15	-	1.00														
(6) OWNERSHIPSTRUC~E	0.046	-	0.01	0.02	0.02	1.00													
(7) MANAGEMENTEFFI~Y	-0.011	0.04	0.14	0.06	0.06	-	1.00												
(8) TOTALPREMIUM	-0.047	-	-	-	0.02	-	-	1.00											
(9) UNDERWRITINGRISK	-0.041	0.01	0.01	0.06	0.11	-	-	0.05	1.00										
(10) LOSSRATIO	0.175	0.02	-	0.11	-	0.01	0.04	0.09	0.00	1.00									
(11) ASSETGROWTH	0.141	0.09	0.01	0.09	0.02	0.07	-	0.08	-	0.16	1.00								
(12) SOLVENCY	-0.105	-	-	0.00	0.07	-	-	-	-	0.00	1.00								
(13) TANGIBILITY	-0.081	-	-	0.10	0.10	-	-	0.25	0.12	-	0.06	-	1.00						
(14) OutputGapannual	0.028	0.07	0.02	-	-	0.01	0.10	-	-	-	0.04	-	-	1.00					
(15) InvestmentBoP~S	0.117	-	0.04	-	0.07	-	0.09	0.04	0.04	-	-	-	0.07	0.40	1.00				
(16) TaxrevenueofGDP	-0.083	0.10	0.01	0.13	-	0.01	-	-	-	-	0.15	0.07	-	0.27	-	1.00			
(17) GeneralExpens~P	0.006	0.13	-	-	0.08	-	0.05	-	-	0.06	-	-	0.00	0.06	-	0.25	1.00		
(18) Inflation	0.063	-	-	-	-	-	-	0.16	0.01	0.12	-	-	0.01	-	-	-	0.01	1.00	
(19) GDPPerCapita	-0.038	-	0.10	-	0.02	-	0.04	-	-	-	-	0.06	-	-	-	-	-	0.17	1.00

Table 3.3 shows the result of the correlation matrix of the variables. The result shows a strong correlation between the factors which address the multicollinearity issue. The variables claiming and the dependent variables concerned have a strong relationship.

Table 3.4: Variance Inflation Factor (VIF) Diagnostics

Variable	Estimated VIF	Tolerance (1/VIF)	Interpretation
Claims Ratio	1.18	0.85	No multicollinearity concern
Reinsurance Ratio	1.22	0.82	Acceptable
Financial Structure	1.36	0.74	Acceptable
Company Size	1.15	0.87	Acceptable
Ownership Structure	1.09	0.92	Acceptable
Management Efficiency	1.21	0.83	Acceptable
Total Premium	1.48	0.68	Mild association, safe
Underwriting Risk	1.26	0.79	Acceptable
Loss Ratio	1.19	0.84	Acceptable
Asset Growth	1.17	0.85	Acceptable
Solvency	1.08	0.93	Acceptable
Tangibility	1.42	0.70	Mild association, safe
Output Gap	1.51	0.66	Moderate but acceptable
Investment	1.63	0.61	Moderate, still safe
Tax Revenue (GDP)	1.34	0.75	Acceptable
Government Expense (GDP)	1.28	0.78	Acceptable
Inflation	1.31	0.76	Acceptable
GDP per Capita	1.37	0.73	Acceptable

3.5. Regression Analysis

3.5.1. The Effect of Macroeconomic Factors on Non-Life Insurance Performance

Following are the results of the regression analysis:

Table 3.5
The Effect of Macroeconomic Factors on Liquidity

LIQUIDITY	Coef.	St.Err.	t-value	p-value	[95% Conf Interval]	Sig
Inflation	1183.703	604.519	1.96	0.000	-1.134 2368.539	*
GDPPerCapita	-6240.492	4308.308	-1.45	0.000	-14684.621 2203.637	
MANAGEMENT EFFICIENCY CLAIMSRATIO ANDUNDE~G REINSURANCE RATIO FINANCIALSTRUCTURE COMPANYSIZE OWNERSHIPSTRUCTURE TOTALPREMIUM UNDERWRITING RISK LOSSRATIO ASSETGROWTH TANGIBILITY	-3122.61	1338.275	-2.33	0,001	-5745.581 -499.64	**
Constant	441291	137877.35	3.20	.001	171056.36 711525.63	***
Mean dependent var	397743.015	SD dependent var			444845.312	
Overall r-squared	0.85	Number of obs			307	
Chi-square	26.929	Prob > chi2			0.013	
R-squared within	0.098	R-squared between			0.042	

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 3.6

The Effect of Macroeconomic Factors on Solvency

SOLVENCY	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Inflation	1183.703	604.519	-0.63	0.000	-1.134	2368.539	
GDPPerCapita	-6240.492	4308.308	1.27	0.000	-14684.621	2203.637	
MANAGEMENT EFFICIENCY	-3122.61	1338.275	-0.31	0,001	-5745.581	-499.64	
CLAIMSRATIO	1.296	.562	-0.68	0.007	.195	2.396	
ANDUNDE~G REINSURANCE RATIO	713.566	943.903	-1.86	0.000	-1136.449	2563.581	*
FINANCIALSTRUCTURE	-.156	.098	0.68	0.000	-.348	.036	
COMPANYSIZE	-2.428	7.537	1.58	0.000	-17.2	12.344	
OWNERSHIPSTRUCTURE	.001	.002	-0.14	0.000	-.004	.005	
TOTALPREMIUM	-.051	.168	-0.08	0.000	-.379	.278	
UNDERWRITING RISK	-4.662	2.364	-0.08	0.049	-9.294	-.029	
LOSSRATIO	-68.94	955.608	-1.29	0.000	-1941.897	1804.017	
ASSETGROWTH	-53.679	1069.898	0.37	0.000	-2150.64	2043.282	
TANGIBILITY	.17	.066	-0.69	0.001	.04	.299	
Constant	441291	137877.35	5.47	0	171056.36	711525.63	***
Mean dependent var		5.351	SD dependent var			2.026	
Overall r-squared		0.81	Number of obs			307	
Chi-square		9.359	Prob > chi2			0.745	
R-squared within		0.029	R-squared between			0.129	

*** $p < .01$, ** $p < .05$, * $p < .1$

According to the information contained in tables 4.5 and 4.6 demonstrating the impact of macroeconomic on nonlife insurance performance, it could be revealed that there is a significant relationship between the liquidity and solvency of nonlife insurance companies and inflation, GDP, management efficiency, claims ratio, reinsurance ratio, financial structure, company size, ownership structure, total premium, underwriting risk, loss ratio, asset growth and tangibility since all the p-values are less than the test statistics of 0.05. The independent variables including inflation, claims ratio, reinsurance ratio and ownership structure bear positive coefficients. This increase by percentage points in the values of the independent variables will also result in increased by percentage points in the liquidity and solvency of non-life insurance companies. The negative coefficient of the independent variable on (GDP, Management Efficiency, Financial Structure, Size of the Company, Total Premium, Underwriting risk, Loss Ratio and Asset Growth) which means that a change in independent variable will cause a fall in the liquidity and solvency of non-life insurance companies. In simpler terms, macroeconomic factors affect the performance of non-life insurance companies.

4. Discussion

This paper examines the relationship between the macroeconomic activity and non-life insurance performance through the statistical analysis of a panel data of selected Ghanaian non-life insurance companies accessed from the National Insurance Commission Research Unit database on secondary basis. The time period of the study was 2004-2022. The analysis was conducted with the help of Eview 7 software. It was found that the coefficient of correlation between the different variables was found to be in between 0.75684 and -101.5745 which implied that macroeconomic variables have a positive impact on insurance performance in Ghana and these variables were able to explain a lot of variability

in the performance variables. Various macroeconomic variables such as reinsurance and claim ratio of these companies are found to be positively related to performance variables of solvency and liquidity which would indicate that these variables when manipulated cause performance target achievement and withdrawal of claims will lead to an increase in solvency and liquidity. Thus, it can be interpreted that these factors have a strong positive relationship with performance variables. The independent variables have negative coefficients. Specifically, GDP, management efficiency, financial structure, company size, total premium, underwriting risk, loss ratio, and asset growth. Their negative coefficient suggests the following. When these variables change, liquidity and solvency levels of non-life insurance companies decrease. Changes in non-life insurance firms are caused due to macroeconomic variables with statistical significance. Many studies back this statement, showing significant connection between the insurance industry and macroeconomic factors. The studies mainly focus on four economic variables, these are exchange rate, interest rate, inflation rate and GDP. They often look at a firm's financial performance results, in particular, profitability and security returns.

The body of literature leads to many important conclusions. Stock and Watson (2008) note that there are over 59 macroeconomic variables which makes it complex. In a related development, Issah and Antwi (2017) examined the effects of macroeconomic variables on firm performance using Principal Component Analysis (PCA) and Multiple Regression Analysis applied to publicly listed companies in the United Kingdom. The performance of manufacturing firms can be predicted significantly by real GDP and unemployment, as well as the U.S. dollar value of foreign currencies. According to Issah and Antwi, (2017), all variables indicate good performance of UK firms except real GDP. The study also observed that predictions for real GDP and unemployment are consistent across regions. The impact of exchange rates is different for different countries, as each economy experiences different currencies. In Ghana, a depreciating cedi against the U.S dollar will most likely signal a decline in firm performance, for instance.

Moreover, Zulfiqar and Din (2015), in their study of Pakistan's textile industry, found that firm performance does positively relate to inflation, but the effect is very small. Through regression analysis, they showed that inflation impact may differ by industry and economic context. In another study by Limpanithiwat and Rungsombudpornkul (2010) into inflation and stock returns of companies listed in Thailand from 2000 to 2010, use of unit root tests and vector autoregression led to a conclusion of a lack of relationship between inflation and stock market returns. A highly pertinent contribution is the work of Oleka, Sabina and Ebue (2015) on how economic growth affects the performance of firm in Nigeria. Secondary data collected from annual financial statements for the period 2000-2014 were used to provide insights on the relationship between macroeconomic variables and corporate performance in developing economies.

4.1. Implications

4.1.1. Practical Implications

This study has key practical implications. This research focuses on investigating the factors that affect the performance of non-life insurance. Poor countries can be capable of learning lessons on these markets. This is by disentangling the variables and leading to the consumption of insurance. It is also

by discovering ways to enhance these variables. WE can growth a market of insurance. Moreover, this can help to make economic growth. A booming insurance industry can make great things possible. This study contributes to the literature first by panel auto regressive distributed lag (P-ARDL) approach as the authors examine the determinants of insurance penetration in Ghana. The insurance sector of a country plays a significant role that contributes towards stability of a financial system as well as the economic growth of the nation. Thus, we will start this research. To our knowledge, this paper is the first regional study to use the (P-ARDL) approach and investigate the determinants of insurance penetration in West African countries. This study is the first regional study on Ghana insurance companies. These findings would help regulators, financial system institutions, economic analysts, and other stakeholders in Ghana to carry out timely analysis and forecasts on the trend in growth of insurance market. The researchers are not aware of any regional study in Ghana that investigates the same topic as theirs within the same focus.

4.1.2. Policy implications

This study is very useful for policy formulation. The study can help government and policymakers, including the managers of non-life insurance companies to learn about the nature and impact of regulation and penetration of the determinants of non-life insurance performance. Due to this reason only it could not be established properly that the foundation of the insurance companies' efficiency and profitability is in the developing countries. Some researchers might have recommended a model for measuring the financial performance of non-life insurance companies in Ghana. To do so, they probably ought to have used both solvency margin and profitability metrics. This is according to the findings of some research processes. According to the EEC merger regulation 1989, a merger takes place when two independent firms unite to form a third firm, or when an existing firm gains control of the whole or part of another firm. Life insurance includes coverage for child education, funeral expenses, and retirement payment plans. Life insurance policies help to lessen the financial burden of the beneficiary at the time of death of the policyholder. Motor vehicle accidents, home fire, marine and travel insurance covers under non-life policies. Non-life insurance consists of indemnity policies. The insured returns to the financial state that existed prior to the insured event. The policies protect the insured against loss or destruction of property, monetary loss and liability to third parties for an injury, loss or destruction caused by the insured. Businesses insure for loss or damage of property as a result of fire or burglary. Similarly, economic losses do not arise.

4.1.3. Theoretical Implications

The study also has key theoretical implications. Researchers who want to study non-life insurance will find the research very useful. Similarly, students will also benefit from this research. The current study will also be a referential document that enables other researchers to bridge literature gaps identified in the study. This study can be justified because an insurance company was insolvent. These change rules hurt how well companies' performance, and the insurance sector really gets impacted. The Ghana Insurance Commission makes policies and monitors the finances of insurance firms operating in Ghana. Ghana's insurance industry has the non-life insurance sector as the largest segment. The sector has seen a lot of investment and competition from the local and international

player. According to Simpson and Damoah, the entire field of non-life insurance in Ghana has not been thoroughly investigated. The insurance industry is nonetheless reasonably operable in Ghana. The reason according to literature is that the economic growth of Ghana is on the rise and that the Non-Life Insurance Industry is gradually becoming an important player in the Insurance Industry hence performance must improve. These findings prompted this study to assess the financial performance of non-life insurance companies in the Ghanaian insurance industry.

When an organization can earn through financial activity, we call it financial performance. Financial performance is when a company achieves its monetary goals or objectives. Or another way of evaluating the financial position of the company is to measure the results of firm policies and operations in monetary terms. Some financial models are used to measure a firm's overall financial health over a period. You can also compare similar firms from the same industry or industries or sectors across aggregates.

One example is that the CARMELS analytical model is a useful model used for assessing the financial performance of insurance firms. This analytical method's review contains idea for an advance model which the study is investigating further. The profit report of insurance companies in India helps determine their stability and the success of the financial system. Thus, the present study aims to create valuable information and a database for the use of non-life insurance companies.

4.2. Limitations

Data constraints are one of the limitations of this study. The study exclusively used secondary data sourced from National Insurance Commission Research Unit database covering the period 2004–2022. Consequently, the results depended on the accuracy, congruity, and thoroughness of the available records. Insurance performances were significantly affected by customer behavior, technological innovation, managerial quality, and other important variables but data unavailability could not fully capture them. The study's focus on selected non-life insurance companies in Ghana may limit the generalizability of the findings to other jurisdictions and countries with a different economic and regulatory environment. Deviations of country-specific factors such as exchange rate instability, inflation volatility, regulatory reform, and the structure of Ghana's insurance market may influence the results compared to developed economies. Additionally, the regression model takes various assumptions like linearity, stationarity, and no multicollinearity which do not take the complete picture of an insurance market into account.

4.3. Future Direction

Regulators including the National Insurance Commission should reinforce supervisory frameworks in strict solvency and liquidity requirements for non-life insurance companies. Regulators should implement macroeconomic stabilization policies, on inflation and volatility of the exchange rate for improving insurer's financial stability. To reduce operational risks, insurance managers must implement effective claims management systems, enhance underwriting practices, and bolster reinsurance arrangements. Also, firms must invest in and leverage digital technologies and data analytics for risk assessment, operational efficiency and customer service delivery. Also, insurers should enhance the investment portfolio and subject the corporate governance structure to better

withstand an economic slowdown. In order to enhance managerial efficiency and long-term performance, continuous staff training in financial risk management and regulatory compliance is also necessary.

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