

## DO THE ECONOMIC INDICATORS INFLUENCE FINANCIAL PERFORMANCE OF NON-LIFE INSURANCE SECTOR IN PAKISTAN?

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**Abstract:** The role of the non-life insurance sector and links into other sectors is vital for the economy. The primary macroeconomic variables such as real GDP, unemployment, and inflation have been taken into account as explanatory variables to assess the impact on financial performance of non-life insurance (FP-NLI) sector for the period of 2009-2013. The management of non-life insurance firms should consider the macroeconomic environment, real GDP, unemployment, and inflation in addition to firm specific characteristics while managing profitability. A significant positive association has been observed between real GDP and FP-NLI sector. It is also observed that unemployment and inflation have a negative impact on financial performance but statistically significant only in case of unemployment.

**Keywords:** Non-life insurance; real GDP; inflation; unemployment; financial performance.

**JEL Classification:** G32; O47; G220; E23; E31.

### 1. Introduction

Diversification of risk is an important element of risk management strategy. Risk can be avoided by using different modes e.g. hedging, options, and insurance. This determines that insurance is a good tool to transfer the risk. The role of the insurance industry in the emerging economy like Pakistan can't be ignored. In 1976 the National Insurance Corporation (NIC) was established to take the responsibility of general Insurance businesses i.e. related to any public property. In Pakistan insurance industry has been classified into two parts (i) Life insurance (ii) Non-life insurance. As per Insurance Ordinance, the Composite insurance is not allowed. The insurance market in Pakistan is going under major structural changes because of minimum capital requirement as per Insurance Ordinance 2000. Due to this many insurance firms are merged. Outreville (2011) documented that every country has its own fiscal and legal rules that consequently have an impact on life and non-life insurance market.

Vaughon & Vaughon (2003) have classified the insurance business into two categories life insurance and non-life insurance business. Life insurance - those which are engaged in selling the life insurance, annuities, and the products related to pensions; whereas, the Non-life or general insurance companies are those which are engaged in the sale of other types of insurance. The Non-life insurance companies can offer insurance in different forms (i) Automobile insurance, (ii) Marine and marine cargo insurance (iii) Pet insurance (iv) Property insurance (v) Travel insurance (vi) Workers' compensation insurance (vii) Stock Insurance (viii) Fire insurance.

The objective of this study is to explore the impact of macro-economic indicators on the financial performance of general insurance companies. The financial performance of insurance companies is associated with the overall development of the country economy. Insurance companies act as a financial intermediary in the service industry. Several macroeconomic indicators are determinants of financial performance but in literature mainly are GDP growth, inflation, and interest rates (Ameur and Mhiri, 2013; Staikouras and Wood, 2011; and Macit, 2012). The key intention of this study is to determine whether overall economic development influences the FP-NLI sector. Mainly GDP growth, inflation rate, and unemployment rate are discussed. Trennery (1926) stated that insurance evolved as a result of the economic development of societies.

The insurance companies are contributing toward an economy in several ways e.g. their financial and non-financial assets and utilization of these assets in the financial market, their investment strategy, what they are investing in different industries e.g. in real estate sector, stock markets, textile and cement sector etc. Another important factor whether they are investing domestically or internationally. It leads to the multiplier effect and motivates the economy toward prosperity.

Negishi (2012) reported that key function of the financial sector is to channelize financial resources from savers to users. The financial sector plays several functions (i) identification of fund savers and seekers, in other words, borrowers and lenders-efficient allocation of funds (ii) to attain economies of scale by lowering the cost of capital and specialization (iii) it supports liquidity and risk management.

In emerging economy like Pakistan, it is needed to identify the macroeconomic factors which impact the performance of non-life insurance companies. The dependent variable for this study is the return on assets (ROA) and the data was gathered from Financial Statement Analysis of financial sector issued by State Bank of Pakistan. The independent variables are real GDP, unemployment, and inflation. The data is collected from the database of Federal Bureau of Statistics.

The remainder of this paper is arranged as follows: section 2 is related to the literature review. Section 3 discusses data and methodology. Section 4, 5 & 6 contains findings, conclusion, and recommendations of the study.

## 2. Literature Review

Haiss and Sümegi, (2008) have reported that in financial industry the role of insurance sector is very important, it supports the economy mainly in following five ways: First, the insurance sector helps in achieving the efficient allocation of resources, second, by reducing the transaction costs, third, it facilitates to create the liquidity, fourth by the achievement of economies of scale in investment and fifth, it supports by spreading of financial loss.

Nissim (2010) pointed out that the growth of insurance industry is linked with the overall economic activity. The demand for non-life insurance products is directly affected by the income of consumers in the market. Christophersen and Jakubik (2014) have empirically analyzed that there is a strong association between insurance companies' premium and country economic growth and unemployment. The relationship between the GDP and the growth of insurance sector has been studied by different authors (Esho et al. 2004; Beck & Webb 2003; and Outreville 1996). The higher GDP leads to greater insurance growth for both life and non-life sector. This is due to increase in income; individuals spend more money to fulfill their

needs such as houses and vehicles that need to be insured. Therefore, greater demand is generated for non-life insurance products are created.

D'Arcy and Gorvett (2000) have explored that in the balance sheet liability side of the property-liability insurers is greatly affected by inflation. Inflation is directly linked with long-term liabilities of insurers; it directly affects the future profits of insurers. Ahlgrim and D'Arcy (2012) have examined the relationship between inflation or the deflation and insurance industry. It has been indicated that inflation severely affect the property liability of insurers in different ways e.g. the costs of future occurring claims on the currently issued policies and the calculation of loss reserves. D'Arcy and Au (2008) and D'Arcy, Au, and Zhang (2009) have observed that calculation of the loss reserves is generally based on the hypothesis that the rate of inflation does not change over the years and it remains constant, it means currently prevailing rate and it will continue until the claims are matured. Therefore, if inflation rate increases more than of expectations then cost will increase and will definitely affect long-term liabilities of insurers.

The relationship between unemployment and demand for non-life insurance sector has been studied by few researchers. The reason might be that the impact of unemployment variable is partially determined by the income effect variable (Lenten & Rulli, 2006). However, this study has included unemployment as an independent variable in the regression model; because its effect on the FP-NLI sector can not be described only by income effect. A negative association is expected between unemployment and FP-NLI sector because unemployment discourages to buy non-life insurance products consequently it decreases demand and profitability of non-life insurance sector. Increasing unemployment rate in the economy will increase the number of losses for non-life insurance sector; since it will direct to crime and recession, in turn, decreases premium levels (KPMG, 2002).

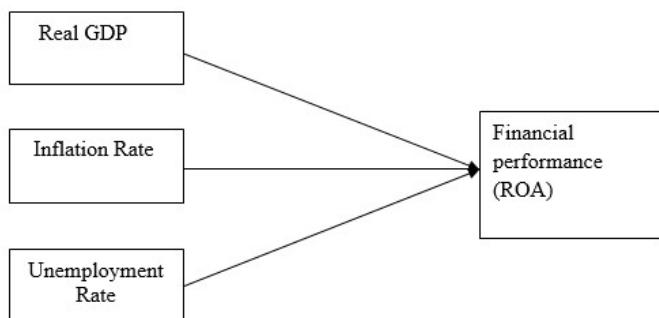
Eling and Luhn (2008) reported that in non-life insurance, premiums are directly affected by the inflation rate in the country. Blum et al (2002) have identified different causality links between insurance sector and overall economic growth (i) in case of demand e.g. increase in economic growth will ultimately lead to increase in demand for insurance (ii) in case of supply e.g. insurance growth reduces economic instability in the short run and therefore it supports to economic growth in the long run.

### 3. Methodology and Sources of Data

The population of this study is non-life insurance companies in Pakistan. The data of 40 public limited non-insurance companies has been selected. The five years data 2009-2013 is collected from Financial Statement Analysis of financial sector reported by State Bank of Pakistan. The macroeconomic variables data has been collected from Federal Bureau of Statistics of Pakistan. The Federal Bureau of Statistics (FBS) is responsible for the collection, compilation, and analysis of statistical data relating to different sectors of the economy. It also publishes statistical data and conducting research with a view of improving statistics.

The relationship between non-life insurance companies' financial performance and macroeconomic factors is modeled by employing multiple regression analysis. The explanatory measures have been decided after reviewing the literature in order to make this study objective oriented. These measures are ROA, Real GDP, Inflation rate and Unemployment rate. Multiple regression analysis is applied to study the effect of macroeconomic variables on the performance of non-life insurance firms.

### 3.1 Research Model



### 3.2 Hypotheses and variables

#### 3.3 Dependent variable

Financial performance - Return on Assets (ROA)

The ratio of ROA is a dependent variable in the regression model.

$$\text{Return on Assets (ROAs)} = \frac{\text{Net Profit}}{\text{Total Assets}}$$

ROA is a very well-known measure of financial performance, it evaluates the efficiency of the management in a sense how well they are utilizing their total assets to generate profits, high profits will ultimately maximize the wealth of owners. Generally, higher ROA is considered better.

#### 3.4 Explanatory Variables

##### 3.4.1 Gross Domestic Product (GDP)

Real GDP is a major measure to evaluate the growth of the economy.

Haiss and Salmegi, (2008) explored that an index for a healthy economy is reported in form of GDP growth. They explained that performance of insurance industry is dependent on the overall economy development of the country.

Real GDP = Annual growth rate of economy

H1: GDP has a positive statistically significant association with the financial performance of non-life insurance firms.

##### 3.4.2 Inflation Rate

It is valuable to examine the effect of inflation on non-life insurance sector financial performance because this directly affects the households and companies financial resources. The increase in inflation encourages consumers to reduce their savings and influences monetary profits of non-life insurance in the long-run period. Therefore, it negatively affects the FP-NLI sector which was documented by different authors in the literature such as (Beck & Webb, 2003 and Outreville, 1993).

Inflation Rate = Annual % change in consumer price

H2: Inflation has a negative statistically significant association with the financial performance of non-life insurance firms.

### 3.4.3 Unemployment Rate

Beenstock et al (1988) examined that high unemployment rate in the economy negatively affects the growth of insurance. Under high unemployment rate, it's difficult for insurance firms to prosper because household is unwilling to spend the limited income for non-life insurance annuities. This behavior makes more sensitive to policyholders toward purchasing new property and durable goods; this restricts demand for insurance. Therefore, it influences negatively the overall FP-NLI firms.

Unemployment rate = Annual % of labor force i.e. without jobs

H3: Unemployment has a negative statistically significant association with the financial performance of non-life insurance firms.

## 4. Empirical Findings

### 4.1 Correlation Matrix

Table 1 presents correlation matrix between dependent and independent variables. As expected, real GDP is statistically positively correlated with FP-NLI sector, signifying that increase in real GDP is an increase in profitability of non-life insurance sector. In addition, inflation and unemployment are negatively correlated with FP-NLI sector. This indicates that these variables are important measures in explaining FP-NLI and thus should be included in the regression analysis.

### 4.2 Descriptive Statistics

Table 2 indicates the mean score of macroeconomic indicators for financial performance with their relevant standard deviations. The average book profitability ratio of sample firms is 1.714 and the standard deviation is 0.886. The mean value of real GDP and unemployment is 3.760 and 11.91, and the standard deviation is 0.901 and 3.559 respectively. This implies that real GDP and unemployment are capitalizing their impact on the profitability of non-life insurance firms.

Table 1: Correlation matrix for main variables. The variables are defined as follows: Return on Assets (ROA) is calculated as net profit / total assets. Real GDP is measured by the annual growth rate of an economy. Inflation is quantified as the annual percentage change in consumer price. Unemployment is calculated by the annual percentage of labor force i.e. without jobs.

Variables	ROA	Real GDP	Inflation	Unemployment
ROA	1.000			
Real GDP	0.6171	1.000		
Inflation	-0.9381	-0.8489	1.000	
Unemployment	-0.0549	-0.0606	0.3244	1.000

Table 2: Descriptive statistics for main variables. The variables are defined as follows: Return on Assets (ROA) is calculated as net profit / total assets. Real GDP is measured by the annual growth rate of the economy. Inflation is quantified as the annual percentage change in consumer price. Unemployment is calculated by the annual percentage of labor force i.e. without jobs.

Variables	Mean	Standard Deviation
ROA	1.714	0.886
Real GDP	3.760	0.901
Unemployment	11.91	3.559
Inflation	9.48	4.60

#### 4.3 Financial performance and macroeconomic indicators

In this part, by using multiple regression analysis, it is examined whether macroeconomic variables affect the FP-NLI or not. Regression results in table 3 quantify the impact of real GDP, unemployment and inflation on the FP-NLI sector. Results indicate that inflation and unemployment are negatively related with FP-NLI sector. Real GDP is positively related to financial performance. R-square 90% value shows that this much variation in the dependent variable i.e. ROA is due to three independent variables – real GDP, Inflation, and Unemployment. The value of F-statistics is 108.98; this indicates the fitness of model, the relationship between dependent and independent variables are good.

Table 3: Regression Coefficient Estimates

Statistics	Financial performance-ROA		t-
	Coefficients		
Intercept / Constant	3.761	2.487	
GDP	1.823		4.035
Inflation	-0.048		-0.762
Unemployment		-0.877	-
9.411			
R square	.90		
F-statistic	108.980		
No. of firms	40		

Based on results, it is reported that GDP has a positive (1.823) relationship with the performance of non-life firms and it is statically significant (t = 4.035) at a confidence level of 95%. It means that the growth of real GDP will affect the FP-NLI firms positively; therefore, the growth of non-life insurance sector is associated with the growth of the economy. More economic growth more demand for non-life insurance products, then the growth of insurance sector will ultimately activate the savings from savers to lenders.

Inflation has negative (-0.048) association but statistically insignificant (t -0.762) impact on financial performance. The increase in inflation reduces the purchasing power of consumers. Due to inflationary trend in the economy, savings will suffer and they will not go for durable goods e.g. automobiles and house construction; it will definitely affect the FP-NLI sector. Unfortunately, in Pakistan constant high rate of inflation in current years has significantly reduced the real premium growth rates. Unemployment has negative (-0.877) association, but it impacts financial performance statistically significant (-9.411). This shows that FP-NLI sector suffers from the unemployment. It is commonly believed that when there is unemployment in the economy, household consumers will purchase less and will consume only for necessary goods. When they will not buy durable goods, they will not prefer to have insurance policy. Same at the corporate level, they will produce less and no more investment in tangible assets, this behavior will negatively affect the FP-NLI sector. Therefore, it is reported that there is a close interaction between the non-life sector and the overall macroeconomic environment. As and when; improvement is predicted in GDP, inflation, and unemployment, it will encourage the overall performance of non-life insurance sector.

#### 5. Conclusion

The aim of this article is to study the impact of macroeconomic variables on the FP-NLI sector. Whether macroeconomic environment really matters for insurance firms? The results indicate that macroeconomic variables namely real GDP, inflation, and unemployment are true determinants of FP-NLI sector. Real GDP and unemployment have statistically significant impact on the performance of non-life insurance sector. From the results, it can be concluded that non-life insurance sector performance is associated with overall economic development. Economic policies are key driving forces for a financial performance of insurance sector. Therefore, economists, while designing economic policies should consider the impact of key macroeconomic indicators on the financial performance of the financial sector. Besides this, insurance sector should strive itself to improve financial performance because it is generally perceived that insurance firms are not friendly. The households and other corporate sectors are reluctant to have an insurance policy for a number of reasons (i) that claim compensation is very difficult (ii) it requires lengthy process and documentation. Therefore, trust and image positioning for insurance sector is important.

#### 6. Recommendations

The Securities and Exchange Commission of Pakistan (SECP) should enhance the image of Pakistan insurance industry by issuing directions on transparency and financial security, code of good governance and sound market practices. The Insurance Association of Pakistan (IAP) exists but it is not capitalizing its role, for the promotion of insurance sector, IAP should take number of steps (i) arrange forums for analyzing issues and formulate solutions (ii) develop good relations with regulatory bodies for better regulatory reforms rather than just at recipient end (iii) need to establish insurance institutes, attract more young people to insurance related professions and employ more technical persons in the industry. Future research may be carried out by comparing the financial performance of life insurance companies with non-life insurance companies. Islamic insurance companies' performance can also be compared with the conventional insurance

companies. The data from Pakistan can also be compared with the insurance companies of the western countries.

#### References

1. Ahlgrim, K.C. and D'Arcy, S.P., 2012. The effect of deflation or high inflation on the insurance industry. Casualty Actuarial Society, Canadian Institute of Actuaries and Society of Actuaries.
2. Ameer, G.B. and Sonia Moussa Mhiri, I., 2013. Explanatory factors of bank performance in Tunisia: A panel model approach. *Global Journal of Management and Business Research*, 13(5).
3. Beck, T. and Webb, I., 2003. Economic, demographic, and institutional determinants of life insurance consumption across countries. *The World Bank Economic Review*, 17(> 1), pp.51-88.
4. Beenstock, M., Dickinson, G. and Khajuria, S., 1988. The relationship between property-liability insurance premiums and income: An international analysis. *Journal of risk and Insurance*, pp.259-272.
5. Blum, D., 2002. The Financial-Real Sector Nexus: Theory and Empirical Evidence [Електронний ресурс]/Blum David, Federmaier Klaus, Fink Gerhard, Haiss Peter (No. 43). IEF Working Paper.
6. Christophersen, C. and Jakubik, P., 2014. Insurance and the Macroeconomic Environment (No. 1). EIOPA, Financial Stability and Information Unit.
7. D'Arcy, S. and Au, A., 2008. A two-factor approach to loss reserve variability. In *Presentado a IAA Joint Colloquium, Boston (Estados Unidos)*. Disponible en <http://www.business.uiuc.edu/~s-darcy/>[consultado el 1 de febrero de 2009].
8. D'arcy, S.P. and Gorvett, R.W., 2000, November. Measuring the interest rate sensitivity of loss reserves. In *Proceedings of the Casualty Actuarial Society (Vol. 87, pp. 365-400)*.
9. D'arcy, S.P., Au, A. and Zhang, L., 2009, November. Property-liability insurance loss reserve ranges based on economic value. In *Casualty Actuarial Society E-Forum, Fall 2008 (p. 98)*.
10. Eling, M. and Luhnen, M., 2008. Underwriting cycles in german property-liability insurance. *Working Papers on Risk Management and Insurance*, (62).
11. Esho, N., Kirievsky, A., Ward, D. and Zurbruegg, R., 2004. Law and the Determinants of Property-Casualty Insurance. *Journal of risk and Insurance*, 71(2), pp.265-283.
12. Haiss, P. and Sümegi, K., 2008. The relationship between insurance and economic growth in Europe: a theoretical and empirical analysis. *Empirica*, 35(4), pp.405-431.
13. KPMG/European Commission, 2002. Study into the methodologies to assess the overall financial position of an insurance undertaking from the perspective of prudential supervision, May 2002.
14. Lenten, L.J. and Rulli, D.N., 2006. A time-series analysis of the demand for life insurance companies in Australia: an unobserved components approach. *Australian Journal of Management*, 31(1), pp.41-66.
15. Macit, F., 2012. Who responds more to monetary policy, conventional banks or participation banks?. *Journal of Economics Finance and Administrative Science*, 17(33), pp.10-14.

16. Negishi, T., Ramachandran, R.V. and Mino, K. eds., 2012. Economic theory, dynamics and markets: essays in honor of Ryuzo Sato (Vol. 5). Springer Science & Business Media.
17. Nissim, D., 2010. Analysis and valuation of insurance companies.
18. Outreville, J.F., 1996. Life insurance markets in developing countries. *Journal of Risk and Insurance*, pp.263-278.
19. Outreville, J.F., 2011. The relationship between insurance growth and economic development: 80 Empirical Papers for a Review of the Literature.
20. Staikouras, C.K. and Wood, G.E., 2011. The determinants of European bank profitability. *International Business & Economics Research Journal (IBER)*, 3(6).
21. Trennery, C.F., 1926. *The Origin and Early History of Insurance Including the Contract of Bottomry*. PS King & Son.
22. Vaughan, E.J. and Vaughan, T., 2007. *Fundamentals of risk and insurance*. John Wiley & Sons.