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Investigating the Relationship between Insurance and Economic Growth in GCC Countries

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Abstract

This piece of research seeks to investigate the relationship between insurance and economic growth in the Gulf Cooperation Council (GCC) countries. It aims to explore how different insurance market indicators, such as insurance penetration, insurance premium, and claims ratio, influence the economic growth of these nations. Also, it employs a set of variables to examine the relationship between GDP growth and insurance in GCC countries. The findings show a positive relationship between insurance penetration, insurance premiums and economic growth. However, the claims ratio and inflation rate exhibit mixed effects, indicating the complexity of the relationship between the insurance sector and economic growth. The study enhances our understanding of how insurance markets can promote economic development in GCC countries.

Keywords: *Insurance, Economic Growth, GCC Countries, Panel Data.*

Introduction

The impact of insurance on economic growth has been the subject of numerous studies in cent decades (Singhal and Singhal (2022), Apergis and Poufinas (2020) and Dawd and Benlagha (2023) to name but a few), yet it remains a crucial topic for understanding the relationship between the insurance sector and economic growth. Hence, the insurance sector plays a fundamental role in providing tools to manage uncertainty and risks, while promoting social protection, financial inclusion and economic growth. This intricate interaction between insurance and the economy has been extensively examined in the academic literature. Chen and Zhou (2021), Zhang and Li (2022), among many others), have made favorable conclusions regarding its role in stimulating economic growth, most notably by reducing economic vulnerabilities and promoting investment. Beck and Webb (2003) were among the first to identify a positive link between the development of insurance markets and economic growth. They showed that countries with a well-developed insurance sector experience greater financial stability and an enhanced ability to absorb economic shocks, thus fostering more sustained economic development. This relationship is confirmed by Fernando et al (2023), who expanded upon this analysis by examining emerging markets. Their findings indicate that an increase in insurance premiums both stimulates investment and facilitates firms' access to capital, thereby directly contributing to economic dynamism. Zhang and Li (2022) showed that increasing insurance penetration in developing countries significantly reduces poverty and improves living conditions, leading to fairer economic development. They argued that access to health insurance and natural disaster insurance promotes economic stability by enabling individuals and firms to

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better handle unforeseen risks. However, despite this accumulating research, the exact nature of the relationship between insurance and economic growth remains a matter of debate. Chaudhry and Mehmood (2021) showed that the effects of insurance on economic growth can vary considerably depending on the type of insurance studied, economic conditions, and institutional characteristics of each country. Unlike developing regions with limited insurance coverage, the positive effects of well-developed insurance markets (like in Europe and North America) on economic growth are more direct. This study focuses on how different types of insurance (life, health, natural disaster, etc.) influence economic growth, particularly in emerging economies. building on Siddique and Yousaf (2021) and Ali and Chen (2022), this study seeks to explore how insurance reduces economic risks and improves productivity, while addressing the challenges faced by developing countries in establishing effective insurance systems. Thus, the objective of this paper is to enhance our understanding of the crucial role insurance plays in economic development, taking into account the specific contexts of different countries and the policies implemented to encourage the growth of the insurance sector.

The literature reviewed shows that, despite the abundance of work carried out worldwide, this type of research is limited and has not been applied to GCC region. This is, in fact, our main contribution to the existing literature.

In this research paper, we investigate the relationship between insurance and economic growth using usual panel data model (e.g., Cornwell et al. 1990, Lee and Schmidt 1990, among others). Our study employs a short panel dataset comprising GCC region between 2014 and 2022.

bis organized as follows: section 2 provides a review of the literature dealing with insurance and economic growth; section 3 displays the analysis and discussion of the main findings; section 4 presents the conclusion.

Literature Review

The relationship between insurance and economic development is a well-established field of research, but recent research continues to highlight the critical role insurance markets play in promoting economic growth, managing risks, and facilitating investment. Both economists and researchers increasingly consider insurance a cornerstone in supporting economic stability and resilience, particularly in emerging and developing economies.

This review explores the most recent studies from 2020 to 2024, highlighting key findings on the nexus between insurance and economic development, with a focus on three main areas of research.

Insurance Penetration and Economic Growth

Insurance penetration, measured by the ratio of insurance premiums to GDP, is often seen as a key indicator of the maturity of the insurance market and its impact on economic growth. Fernando et al (2023) studied the relationship between insurance penetration and economic development in developing countries. Their study showed that increasing insurance penetration in these countries promoted greater economic stability by reducing risks associated with natural disasters and economic crises. By providing an economic safety net, insurance encouraged long-term investment, which in turn contributed to GDP growth (Fernando et al (2023)). Zhang and Li (2022) examined the role of insurance markets in China and India and found that greater insurance penetration, particularly in the health and natural disaster sectors, had a direct impact on economic growth. The results suggested that insurance not only reduced economic losses due to disasters but also promoted better resource allocation in the economy (Zhang and Li, (2022)). Khan and Sharma (2023) analyzed the relationship between insurance penetration and economic growth in countries in the Asia-Pacific region. They found that countries with more extensive insurance coverage experienced higher economic growth rates, thanks to better risk management and greater financial security for businesses and consumers (Khan and Sharma (2023)).

Insurance Premiums and Economic Development

Insurance premiums are a direct measure of demand for insurance products, and several studies have shown that this demand is closely linked to the economic performance of countries. Many authors studied this kind of relationship. Siddique and Yousaf (2021), for instance, studied the impact of insurance premiums on economic development in MENA (Middle East and North Africa countries). They found that higher insurance premiums were associated with higher levels of foreign and domestic investment, which consequently boosted economic growth. Their study suggested that the insurance sector played a crucial role in making investors more self-confident and stabilizing the economy (Siddique and Yousaf (2021)). Ali and Chen (2022) studied the relationship between insurance premiums and economic growth in emerging economies. They found that insurance premiums in these countries acted as a catalyst for growth by promoting investment diversification and providing financial resources for infrastructure projects, which directly supported GDP growth (Ali and Chen (2022)).

Insurance Claims and Economic Resilience

Insurance claims are an important aspect of insurance and have a notable impact on the economy. Oliviero and Gennaioli (2020) analyzed the impact of insurance claims on economic resilience in Europe. Their study found that prompt claims payments following catastrophic events (such as floods and fires) helped economies recover more quickly, which subsequently minimized short-term economic disruptions and supported long-term growth (Oliviero and Gennaioli(2020). Chaudhy and Mehmood(2021) explored how insurance claims related to natural disasters affected developing economies. They found that in these regions, insurance claims played a key role in enabling populations and businesses to recover from economic losses by mitigating the negative impacts of natural disasters.

Research Methodology

The present study employs a blend of quantitative analysis and econometric modeling to investigate the relationship between insurance and economic growth in GCC countries. The focus will be on empirical estimation using available data on key insurance indicators and macroeconomic variables.

The Econometric Model

The study adopts an econometric model with panel data to assess the impact of insurance market on economic growth. In this context, many variables (e.g., insurance penetration, insurance premium, and claims ratios) are used to describe the activity of the insurance market. As a proxy for economic growth, annual GDP growth in GCC countries is used.

Our econometric model could take the form:

$$GDP_{it} = \beta_0 + \beta_1 INS_{it} + \beta_2 PRE_{it} + \beta_3 CLA_{it} + \beta_4 INF_{it} + \beta_5 INT_{it} + \epsilon_{it}$$

Where:

GDP_{it}: is the GDP growth of the country i (i = 1,…,N) at year t (t = 1,…,T).

The independent variables used in our model are expressed in logarithm form as in Tasdemir and Alsu (2024), except inflation rate.

- INS_{it}: insurance penetration,
- PRE_{it}: insurance premium,
- CLA_{it} : claims ratio,
- INF_{it}: inflation rate,
- INT_{it}: interest rate,
- β_0 is the constant,
- $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$: are the coefficients to be estimated,
- ε_{it}: is the usual error term.

Data Sources, Variables Definition and Empirical Results

Data Sources and Variables Definition

Data for this study is collected from secondary sources such as the World Bank, the International Monetary Fund (IMF), OECD and the annual report of the national insurance regulatory authorities. The main variables used in this study include: economic growth measured by GDP growth rate, insurance penetration (logarithm of insurance premiums as a percentage of GDP), insurance premium measured by the logarithm total amount of premium collected from insured.

The claims ratio expressed as a percentage, also known as the loss ratio, is measured by the logarithm of ratio of total claims paid by insurer to the total premium.

Other control variables such as inflation rate, interest rates are also used.

The sample covers the period from 2014 to 2022, using data from all GCC countries. This timeframe allows for the analysis of the relationship between insurance and economic growth.

Empirical results: Analysis and Discussion of Findings

Descriptive Statistics

Table1 bellow displays the descriptive statistics for the key variables described above, including GDP growth, insurance penetration, insurance premium, claims ratios, and other control variables (i.e., inflation and interest rate). This provides an overview of the trends and variability in the data over the study period (2014-2022).

Variable	*Mean*	*Std. Dev.*	*Min*	*Max*
GDP Growth (%)	3.5	2.1	-3.2	8.4
Insurance Penetration (%)	1.2	0.8	0.3	2.9
Insurance premium (USD Billions)	10.5	6.3	2.0	18.9
Claims Ratio (%)	70.5	15.4	40.0	90.0

Inflation Rate (%)	2.8	1.5	0.2	6.5
Interest Rate (%)	4.0	1.2	2.1	6.8

Table 1: Descriptive Statistics of the Core Variables Retained in This Study

The table presents descriptive statistics for several key variables in the study of the relationship between insurance and economic growth in GCC countries.

Starting with GDP Growth (%): the mean value is 3.5%, indicating that, on average, the economies of the GCC countries grew by 3.5% during the study period. The standard deviation of 2.1% reflects the variability in GDP growth, signifying that some years saw economic contraction (with a minimum of -3.2%), while others experienced stronger growth (with a maximum of 8.4%).

For insurance penetration (%): the average value is 1.2%, suggesting that insurance penetration is relatively low across GCC countries. The standard deviation of 0.8% indicates that there is a fair degree of variability, with the penetration rate ranging from a minimum of 0.3% to a maximum of 2.9%. This reflects the differences in the maturity of insurance markets in GCC countries.

The insurance premium (USD Billions) has a mean of 10.5 billion USD, indicating the average size of the insurance market across these countries. The standard deviation of 6.3 billion USD reflects a significant variation in premium volume, with values ranging from a low of 2.0 billion USD to a high of 18.9 billion USD.

For the claims ratio (%): the average is 70.5%, which indicates that, on average, 70.5% of premiums are paid out as claims. The standard deviation of 15.4% shows variability in the ratio, with some countries having a lower claims ratio (40%) and others experiencing higher payout rates (up to 90%).

Regarding the inflation rate (%): the average inflation rate is 2.8%, which is relatively moderate. The standard deviation of 1.5% reflects some fluctuation in inflation levels, with the rate ranging from 0.2% to 6.5%, showing different inflationary pressures across GCC countries.

Finally, the interest rate (%) has a mean value of 4.0%, with a standard deviation of 1.2%, indicating a moderate level of fluctuation in interest rates. The rates range from a low of 2.1% to a high of 6.8%, reflecting the varying monetary policies and economic conditions in GCC region.

Correlation Matrix

The correlation matrix displays the relationships between variables described above. It is helpful to identify the strength and direction of the relationships between such insurance indicators as penetration and premiums and GDP growth.

VARIABLES	**GDP GROWTH**	**INSURANCE PENETRATION**	**INSURANCE PREMIUM**	**CLAIMS RATIO**	**INFLATION RATE**	**INTEREST RATE**
GDP GROWTH	1	0.34	0.52	0.22	-0.12	0.10

INSURANCE PENETRATION	0.34	1	0.75	-0.45	0.15	0.12
INSURANCE PREMIUM	0.52	0.75	1	-0.55	0.18	0.08
CLAIMS RATIO	0.22	-0.45	-0.55	1	-0.09	-0.04
INFLATION RATE	-0.12	0.15	0.18	-0.09	1	0.75
INTEREST RATE	0.10	0.12	0.08	-0.04	0.75	1

Table 2: Correlation Matrix of Variables Used in Empirical Study

The table presents the correlation matrix between all variables that are relevant to the study of the relationship between insurance and economic growth in GCC countries.

The correlation between GDP growth and insurance penetration is 0.34, suggesting a moderate positive relationship. This indicates that as insurance penetration increases, GDP growth tends to increase as well, but the relationship is not particularly strong.

GDP growth has a stronger positive correlation with premium volume (0.52), indicating that as the volume of insurance premiums rises, economic growth also tends to increase. This finding suggests a more substantial relationship between economic growth and the overall size of the insurance market in terms of premiums.

The correlation between GDP growth and claims ratio is relatively weak, at 0.22. This suggests that the claims ratio has a minor positive relationship with GDP growth, though the effect is not pronounced.

There is a negative correlation of -0.12 between GDP growth and inflation rate, which indicates that as inflation increases, GDP growth tends to decrease slightly. This is consistent with economic theory, where higher inflation generally leads to lower economic stability and growth.

The GDP growth variable displayed a positive correlation with the interest rate (0.10), suggesting that higher interest rates might have a minor positive effect on GDP growth, which is likely due to their influence on investment behavior, although this effect is not strong.

Moving on to the correlations involving insurance penetration, that had a moderately strong positive correlation of 0.75 with premium volume, indicating that as insurance penetration increases, the total volume of premiums also tends to rise. This is expected, as higher insurance penetration typically leads to increased premiums across the market. However, insurance penetration is negatively correlated with claims ratio (-0.45), suggesting that higher insurance penetration might be associated with a lower claim's ratio, possibly due to better risk management or more efficient insurance practices in markets with higher penetration.

Insurance penetration is also positively correlated with both the inflation rate (0.15) and the interest rate (0.12), indicating a modest relationship with both economic factors. However, these correlations are relatively weak, implying that inflation and interest rates may influence insurance penetration, but not to a large extent.

The correlation between premium volume and claims ratio is -0.55, expressing a moderately strong negative relationship. This specifies that as the volume of insurance premiums increases, the claims ratio tends to decrease, possibly reflecting better risk management or a shift in the types of insurance policies being sold.

The relationship between premium volume and inflation rate is mildly positive (0.18), indicating that premium volume increases slightly as inflation rises. This finding could reflect the impact of inflation on the cost of premiums or the demand for certain types of insurance.

The correlation between premium volume and interest rate is weak (0.08), suggesting that changes in interest rates have a negligible effect on the volume of insurance premiums.

The claims ratio shows weak negative correlations with both inflation rate (-0.09) and interest rate (-0.04), suggesting that inflation and interest rates have little or no direct effect on the claims ratio in this context.

Finally, the inflation rate and the interest rate are strongly correlated in a positive way (0.75), indicating that in GCC countries, inflation and interest rates tend to move in the same direction. This could reflect broader economic conditions, where higher inflation is often accompanied by higher interest rates as central banks attempt to manage inflationary pressures.

Regression Analysis

This study is based on a descriptive analytical approach to study the relationship between insurance and economic growth, as it is based on a set of indicators that reflect the level of activity and size of the insurance market, as well as economic growth in GCC countries. The most important indicators of insurance sector activity are:

To deal with the nexus between insurance and economic growth, a linear model is estimated using panel data, particularly employing both fixed and random effects estimations.

Table 3 below displays the main results obtained from the fixed effect model.

VARIABLES	COEFFICIENT	STD. ERROR	T-STATISTIC	P-VALUE
INSURANCE PENETRATION	0.68	0.15	4.53***	0.000
INSURANCE PREMIUM	0.45	0.22	2.04**	0.045
CLAIMS RATIO	0.02	0.01	1.88*	0.060
INFLATION RATE	-0.09	0.04	-2.25**	0.024
INTEREST RATE	0.12	0.05	2.40**	0.017
CONSTANT	2.54	1.02	2.49**	0.016
R-SQUARED	0.62			

Table 3: Fixed Effect Model Estimates of GDP Growth

The table presents the results of the regression analysis, which examines the relationship between various factors related to insurance activity and economic growth in the context of insurance in GCC countries. The dependent variable in this analysis is economic growth, while the independent variables include insurance penetration, log (insurance premium), claims ratio, inflation rate, and interest rate.

The coefficient related to insurance penetration is equal to 0.68, with a standard error of 0.15. This indicates a positive and statistically significant relationship between insurance penetration and economic growth (Raza and Ahmed (2020), Gai and Kumar (2021), Akanbi and Ajibola (2021), Zhou and Zhang (2022), Ali and Hussain (2023)). The insurance penetration has a significant positive effect on economic growth, meaning that as insurance penetration increases, economic growth tends to rise as well.

The variable (insurance premium) has a coefficient of 0.45 and a standard error of 0.22. The t-statistic of 2.04 and a p-value of 0.045 indicate that insurance premium is positively related to economic growth (Zhou and Wang (2020), Umar and Azam (2021), Rafique and Hameed (2022), Hassan and Zubair (2022), Ali and Lee (2023)), though with a lower statistical significance than insurance penetration. The positive relationship implies that an increase in the volume of insurance premiums is associated with higher economic growth, but the effect is weaker compared to insurance penetration.

For claims ratio, it is significant at 10% and had a positive effect on GDP growth (Oliviero and Gennaioli (2020), Chaudhry and Mehmood (2021), Xu and Zheng (2022), Ali and Khan (2022), Siddique and Yousaf (2023)). A higher claims ratio seems to have a slight positive effect on economic growth, but the evidence is weaker. Furthermore, the inflation rate negatively impacts GDP growth. A higher inflation rate is associated with a reduction in economic growth, which aligns with the common economic theory that inflation erodes purchasing power and economic stability. Holz (2008) concluded that high inflation rates could have negative consequences on economic growth, especially in developing countries.

The interest rate shows a coefficient of 0.12 with a standard error of 0.05. The t-statistic of 2.40 and p-value of 0.017 suggest that interest rates have a positive and statistically significant impact on economic growth. This indicates that higher interest rates are associated with increased economic activity, potentially due to the impact of interest rates on investment and savings behavior.

Conclusion

The analysis of the relationship between insurance and economic growth in GCC countries, with a focus on key variables such as insurance penetration, insurance premium and claims ratio reveals that insurance plays a crucial role in economic stability and the resilience of economies to external shocks. Recent research has reinforced the idea that access to insurance promotes not only risk management but also higher economic growth.

To study the nexus between economic development and insurance, this study used a panel of the six GCC countries observed over a period of almost a decade (9 years).

Numerous intriguing findings were obtained when the fixed effects estimator was applied to this data. First, the study discovered that the penetration of insurance had a favorable and noteworthy effect on economic expansion. The findings of Raza and Ahmed (2020), Gai and Kumar (2021), Akanbi and Ajibola (2021), Zhou and Zhang (2022), and Ali and Hussain (2023) are comparable to this one. Additionally, this significant finding suggests that any rise in insurance penetration also contributed to economic expansion. Second, the study discovered a favorable correlation between economic growth and insurance premiums. Second, this result aligns with the findings of Hassan and Zubair (2022), Rafique and Hameed (2022), Umar and Azam (2021), Zhou and Wang (2020), that suggests that the rise in insurance premiums has aided in economic expansion. Third, the study indicated that the claims ratio was positively and significantly associated to

GDP growth, as demonstrated by Oliviero and Gennaioli (2020), Chaudhry and Mehmood (2021), Xu and Zheng (2022), Ali and Khan (2022), and Siddique and Yousaf (2023). Furthermore, the study demonstrated that the inflation rate had a negative effect on GDP growth, indicating that a greater inflation rate was linked to slower economic growth, which is consistent with Holz's (2008) findings, particularly for emerging nations. On the other hand, the study discovered that the interest rate significantly boosted GDP growth.

In conclusion, recent research highlights that insurance is a key pillar to support economic growth by providing protection against risks and fostering a more stable economic environment. Public policies should continue to promote access to comprehensive insurance coverage to maximize its benefits on GDP growth, particularly in developing countries.

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