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# THE INTERACTION BETWEEN INSURANCE SECTOR AND ECONOMIC GROWTH: TURKISH CASE*

## Abstract:

The insurance sector has great importance for modern society. Insurance sector is one of the most important financial institutions in the financial system that affects the economic growth with the remarkable assets. Especially since the 1950s, the insurance sector has high growth rates. From the end of the 19th century, effects of the financial institutions on economic growth are studied in-depth in the literature. The results of many studies showed that impact of financial institutions on economic growth is significant. However, the literature on the role of the insurance sector on economic growth in comparison with the role of the banks on economic growth has not been studied very much. The main objective of this study is to investigate the interaction between the Turkish insurance sector and economic growth. In this study, the development of the Turkish insurance sector and influence of insurance sector on economic growth will be studied. Afterwards using the methods of time series analysis, the interaction between the size of the Turkish insurance sector and economic growth will be investigated. Findings from the study will provide us important information about the details of the interaction between insurance sector and economic growth. Basic contribution of this work is to provide useful information about the details of this interaction to policy-makers and agents for effective decision-making. Further analysis of this interaction will emphasize the importance of the insurance sector for economic growth.

## Keywords:

Insurance, Economic Growth, Insurance Premium, Turkish Insurance Sector

**JEL Classification:** C32, G22, O43

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## 1. Introduction

It has been expressed that the development of national insurance and reinsurance market is one of the most important sources of economic growth in the first conference of UNCTAD in 1964. After the 1960s, the impact on economic growth of the insurance sector began to attract the attention of the researchers. Insurance sector as the risk management role of the financial sector constitutes one of the most important parts of the financial services. Due to rapid growth of the insurance sector, increasing importance of the relation between the insurance and economic growth attracts more attention of the researchers. On the other hand, examining the impact of the insurance sector on economic growth is important due to the increased share of the insurance sector in financial sector (Abram, Nguyen and Skuly, 2010). The main objective of this study is to determine the contribution of the insurance sector to the economic growth of our country's by using the time series analysis.

The first part of the study will focus on the importance of the insurance sector and its role in the economy. In addition, literature and the theoretical framework about the relationship between economic growth and insurance sector are included in this section. In the second part, the study provides information on the methodology. In the third part, we present the empirical results. Finally, we present the conclusion in the fourth part and outline the policy implications.

### 1.1. The Importance Of Insurance Sector And The Role In The Economy

Although in 1964, UNCTAD has stressed to the importance of the insurance operations of the financial sector to the economic growth in the first conference, the insurance sector has been relatively little studied. The size of insurance premiums, employment of the sector, the contribution to the economy by managed assets and related areas, as well as to enable the realization of many of the economic activity by formation of capital is the main contribution to modern society (Outreville, 2012). Insurance sector supports financial stability, facilitates trade and reduces losses by transferring the risk.

The most basic function of the insurance sector is the transfer of risk. Insured agent will pay to secure a specific subject (Haiss and Sümegi, 2008). Insurance companies transfer risk to themselves to preserve the financial stability of households, especially by making long-term investments, on the other hand with the life insurance premiums they support the development of the local stock and bond markets. Insurance companies' transfer risks with new tools that developed by the insurance sector also contribute to the formation of new capital. Preserving the financial stability of the economic agents with the tools offered by the insurance sector will contribute to economic growth. Many researchers asserted that financial stability is the basic need of the economic growth because of the importance of financial sector for economy.

Separation of life and non-life insurance sector as the sector gives us two represent different characteristics. Collected premiums in the life insurance branch, are channeled

to long-term investment contributes to economic growth. Non-life insurance includes instruments which fulfill the transfer function of the risk.

### 1.2. Theoretical Background and Literature Review

Because of the size of the insurance activities and role in the economy, especially on the economic growth attracts us to analyze the relationship between insurance activities and economy (Outreville, 2012). Increasing demand of the tools that minimizes the risk of people and differentiation with the tool of the insurance operations has led to the growth of the insurance fund. Insurance funds directly increase the size of the financial sector and effect of this growth of the financial sector on economics has been emphasized in numerous studies in the literature on economic growth.

Many studies analyzed the impact of the financial intermediaries on economic growth but relatively limited studies investigated the effect of insurance sector on economic growth.

Ward and Zurbruegg (2000) in their study on OECD countries, Canada, Italy and Japan stated that there is a relationship between the insurance sector and economic growth.

Webb, Grace and Skipper (2002) have demonstrated that the effect on the economic growth of the banking sector together with the insurance sector.

Boon (2005) in his work has pointed out the long-term effects of the insurance sector on GDP. Total insurance fund in the short and long-term affects the capital formation that promotes the economic growth.

Kugler and Ofoghe (2005) in their study in the UK between insurance premiums and long-term economic growth and Granger have proved that there is a causal relationship.

Arena (2006) in his study of 56 countries in total, life and has obtained the finding that the impact on economic growth in non-life premiums.

Haiss and Sümegi (2008) 29 for high-income countries in their study on European countries have expressed the importance of the life insurance sector. They do this as well as non-life emphasis on developing countries is important for the insurance sector.

Saini and Smith (2011) in their study of 51 countries, using data from 1981 and 2005 have analyzed the impact on economic growth of the insurance sector. Increasing total factor productivity of the insurance sector in developed countries stated that they contributed to economic growth. In developing countries, to support the insurance sector capital formation because they are said to contribute to economic growth.

## 2. Method

### 2.1. Data, Model and Methodology

This study investigates the relationship between economic growth and the insurance sector using time series method. Many studies in the literature used life and non-life premiums as indicators of the insurance sector. In our study, utilizing the method of time series we used life and non-life indicators to investigate the relationship between the insurance sector and economic growth. As a proxy for the size of the insurance sector quarterly data of life, non-life and total premiums written in the insurance sector between 2005-2012 periods is used. Gross Domestic Product (GDP) is used as proxy for economic growth.

Life, non-life and total premiums were derived from Turkey Insurance and Reinsurance Association statistics system. GDP and Consumer Price Index data were obtained from the Central Bank of the Republic of Turkey Electronic Data Dissemination System (EDDS). Series are seasonally adjusted and converted to natural logarithm form after deflating by using the consumer price index.

## 3. Empirical Results

### 3.1. Unit Root Test

Before the test of the cointegration analysis of the variables we must examine time-series properties of the variables. Non-stationary time series is regarded as problematic. Non-stationary variables will result in spurious regression results. To overcome these problems all variables are subjected to unit root test. Below at the tables we can see the results of the unit root tests.

**Table 1: ADF Unit Root Test**

| ***Level*** | ***Constant*** | ***Constant and Trend*** |
|---|---|---|
| GDP | -0.386243 (2) | -1.910084 (2) |
| Life | -0.117038 (6) | -2.958811 (6) |
| Non-Life | -0.988274 (2) | -2.377576 (2) |
| Total | -0.637049 (2) | -2.063336 (0) |
| ***1st Difference*** | ***Constant*** | ***Constant and Trend*** |
| GDP | -7.589150 (2)* | -7.521273 (2)* |
| Life | -4.646167 (6)* | -4.653772 (6)* |
| Non-Lİfe | -12.38204 (2)* | -12.22710 (2)* |
| Total | -14.70768 (2)* | -14.50505 (1)* |

* %1 critical value **%5 critical value

These results suggest that the GDP, life, non-life and total premiums variables are integrated of order one.

### 3.2. Johansen Cointegration Test

If all of the variables are integrated of same order, one has the opportunity to apply the cointegration test. Cointegration between the variables identifies the long-term relationship, if there is no cointegration states that there are no long term relationships. In our study, we employ the Johansen cointegration test procedure. The results of the cointegration test applied to all time series are reported below at the tables.

**Table 2: Johansen Cointegration Test (Life)**

| | $\lambda_{trace}$ | |
|---|---|---|
| | *Trace Statistics* | *%5 Critical Value* |
| None* | 22.78291 | 20.26184 |
| At most 1 | 5.393010 | 9.164546 |
| | $\lambda_{max}$ | |
| | *Max-Eigen Statistics* | *%5 Critical Value* |
| None* | 17.38990 | 15.89210 |
| At most 1 | 5.393010 | 9.164546 |

* Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

The results from the cointegration analysis in the table indicate that there exists a long-run relationship between the life premiums and economic growth.

**Table 3: Johansen Cointegration Test (Non-Life)**

| | $\lambda_{trace}$ | |
|---|---|---|
| | *Trace Statistics* | *%5 Critical Value* |
| None* | 21.59303 | 20.26184 |
| At most 1 | 4.904374 | 9.164546 |
| | $\lambda_{max}$ | |
| | *Max-Eigen Statistics* | *%5 Critical Value* |
| None* | 16.68866 | 15.89210 |
| At most 1 | 4.904374 | 9.164546 |

* Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

The results from the cointegration analysis in the table indicate that there exists a long-run relationship between the non-life insurance premiums and economic growth.

**Table 4: Johansen Cointegration Test (Total)**

| | $\lambda_{trace}$ | |
|---|---|---|
| | *Trace Statistics* | *%5 Critical Value* |
| None* | 62.39532 | 20.26184 |
| At most 1 | 4.638444 | 9.164546 |
| | $\lambda_{max}$ | |
| | *Max-Eigen Statistics* | *%5 Critical Value* |
| None* | 57.75687 | 15.89210 |
| At most 1 | 4.638444 | 9.164546 |

* Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

The results from the cointegration analysis in the table indicate that there exists a long-run relationship between the total insurance premiums and economic growth.

## 4. Conclusion

In this study, we analyzed the relationship between life, non-life, and total insurance premiums with economic growth. The findings of the study have concluded that there is a relationship between economic growth with all kinds of premiums. In Turkey, we saw

that insurance sector achieved a significant growth in the last 10 years. Especially, the life insurance sector experienced a rapid growth with the contribution of new tools and incentives. According to the results, the growth of the insurance sector has an impact on economic growth.

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