

## IMPACT OF THE INSURANCE SECTOR DEVELOPMENT AND THE INVESTMENT OF INSURANCE COMPANIES IN THE STOCK MARKET ON ECONOMIC GROWTH IN IRAN

Maryam Hosseinzadeh<sup>1</sup>, Saeed Daei-Karimzadeh<sup>2</sup>, Homayoun Ranjbar<sup>3</sup> and Sara Ghobadi<sup>4</sup>

<sup>1,3,4</sup>Department of Economics, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran.

Email: <sup>1</sup>[mhs2620@yahoo.com](mailto:mhs2620@yahoo.com), <sup>2</sup>[homayounr@yahoo.com](mailto:homayounr@yahoo.com), <sup>4</sup>[s\\_ghobadi@hotmail.com](mailto:s_ghobadi@hotmail.com)

<sup>2</sup>Corresponding author, Department of Economics, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran.

Email: [saeedkarimzade@yahoo.com](mailto:saeedkarimzade@yahoo.com)

**Abstract:** Insurance companies are important institutions in the capital market that play an important role in the Iranian economic development by adopting various risks as well as equipping and strengthening financial resources for investing in the money market. The insurance sector, with a large portfolio Human resources and a wide network of branches, agents and other insurance pillars can play a significant role in the Iranian economic development. The main objective of this research is to investigate the effect of the insurance sector development and the investment of insurance companies in the stock market on economic growth in Iran. For this purpose, the hypotheses were analyzed using time series data for Iran. For analyzing the method of Autoregressive Distributed Lag, the results of the research show that the insurance sector development has a significant effect on economic growth in Iran and the investment of insurance companies in the stock market has a significant effect on Economic growth in Iran.

**JEL Classification:** G22, M21, O43, C01.

**Keywords:** Insurance Sector -Economic growth - Insurance penetration - Stock market - Autoregressive distributed lag.

### 1. INTRODUCTION

In general, the structure of the financial market of each country's economy is composed of two parts: money and capital markets. The money market is responsible for short-run financing and the capital market is for long-run financing. Obviously, the interaction of these two markets is very important in the dynamics of the economy. A brief overview of the economic situation of different countries demonstrates that the capital markets of those countries that benefit from a higher degree of development have a greater depth and breadth. While in developing countries, the money market has a dominant role in the economy and in the financial market. This means that the capital market is generally the main source of financing

in developed countries and thus plays a crucial role in productive economic activities. In contrast, the money market is at the heart of the financial structure in the developing countries, so manufacturing units depend to a large extent on the banking system to meet their financial needs. Therefore, it is essential and necessary that the transition from bank-based financial structure to the financial structure based on securities and capital markets be made in the process of economic development. Certainly, institutions and insurance companies, which are the main and important institutions of the capital market and have a consistently and continually active presence in the advanced financial markets on the basis of available statistics and information, will play a significant role (Azizi, 2001).

## 2. LITERATURE

Human beings have been continuously exposed to various dangers for many years and have always been trying to find ways to defend themselves against dangers. Today it's no secret that one of the major factors in the economic growth and development of a country is the increase in the productive investment of that society. This requires economic development as one of the most important goals of the country, because its achievement requires major instruments such as the development of financial markets, including the money market, capital market and the insurance sector. Considering the nature of their activity, insurance companies are considered as the most important channels of savings and are one of the major and central financial institutions in the field of mobilization and allocation of capital and financing of economic units, because the insurance sector can provide a proper platform for economic growth and development by attracting received premiums and streamlining monetary resources collected efficiently and its investment. The insurance sector boom depends on the profitability of the sector. The insurance sector can provide a suitable platform for the implementation of economic activities by providing capital security. Inappropriate performance of this sector, in addition to its inner structure, will have widespread side effects on other markets, including reducing the efficiency of other sectors due to the lack of security and health enough to conduct economic activities (Bakhshi, 2003). Insurance companies from their portfolio allocation channel in the stock market can have a constructive role in the country's economic growth. Today, with the presence of large insurance companies, each with a significant amount of capital and each year receiving a large amount of premium, the importance of funds investment and presence in the financial market is very high and has forced the managers of most insurance companies to pay more attention to this issue. Today, more than 100 billion Rials are invested by insurance companies only on the Stock Exchange. Thus, there is a strong presence of insurance companies in the financial market (Molaei, 2005).

In conjunction with the relationship between the development of the insurance sector and economic growth, we can mention three categories of theories

concerning the development of the insurance sector and economic growth: the first category, the confirmatory theories supporting the development of the insurance sector from economic growth, which is known as supply-leading theories. The second category is the confirmatory theories supporting the economic growth from the development of the insurance sector, which is introduced to the demand-following theory, and the third category, Lucas theory, which does not consider the development of the insurance sector important for economic growth. Catalan et. al., (2007) and Blum et. al., (2002) believe that insurance companies play an important role in economic growth and, in comparison with other financial sectors, the relationship between the insurance sector and economic growth can be categorized in terms of causality according to the following assumptions:

1. Without any causal relationship;
2. Adherence to demand (economic growth will lead to increased demand for insurance);
3. Supply-leading (growth of the insurance sector will lead to long-run economic growth; moreover, growth of investment by insurance companies will lead to economic growth);
4. The negative causal relationship from the insurance sector to economic growth (the growth of the insurance sector leads to moral hazard, the consequences of which are less efficient and more volatile economies);
5. Intermediate dependence (interdependence);

Han et. al., (2010), Adams et. al., (2009) and Kugler & Ofoghi (2005) support the existence of a causal relationship between the insurance sector and economic growth. They believe that, on the one hand, the insurance sector provides the basis for the expansion of production and service activities by creating security and reliability and, through investment activities, results in efficient resource allocation and increased economic growth. On the other hand, the increase in economic growth leads to an increase in per capita income and the purchasing power of people, and as a result, they tend to increase the demand for insurance. In recent years, Merton and Bodie (2004) and Levin (2004) have stated that financial institutions

(banks, insurance, and stock exchange) support economic growth in different ways. Schumpeter, a great economist of development, is one of the enthusiastic supporters of the positive impact of financial sector, which insurance is also a part of it, on the growth of production and employment and, ultimately, of economic development. Supply-leading theories explain this very well. On the other hand, it can be said that the insurance sector, like all industries, has a reciprocal relationship with other sectors, and therefore its expansion is dependent on the boom of its own later and past sectors. The demand-following theories explain the issue. Therefore, the development of the insurance sector, on the other side, depends on economic growth. So the development of insurance and development of the whole economy are interdependent (Jafari Samimi, Kardgar, 2007).

One of the main and important factors of economic growth and development in a country is the increase of productive investment in that society and there is a direct relationship between economic development and investment. Therefore, economic development is one of the major goals of the country and achieving it requires tools, most notably the dynamism, evolution and development of financial markets including the money market, capital and insurance sector. Due to their nature, insurance companies are important savings channels and, as a result, are key and central financial institutions which, along with other financial institutions, helps in the procurement and allocation of capital and help finance the economic units. Insurance in all branches and disciplines of economic activity helps to spread confidence. One of the areas is the financial market where insurance plays an active role. More precisely, the financial market, including insurance, the stock exchange and the bank, can be called the financial development triangle, which remains inadequate and inefficient without the presence of insurance. In the financial development triangle, bank as money base, stock market as capital base, and insurances as trusted base are respectively, which contributes to financial development through a two-way communication (Kadkhodayi, 2001).

Insurance has an important and critical role in economic growth and development, especially in developing countries that suffer from a lack of capital.

Attention to the position and the factors influencing it, as well as the effect of the various policies adopted in this section, will have a significant impact on the economy of the country. Therefore, the importance of the issue of financial development from the development channel of insurance sector and economic growth, especially in Iran, is the main objective of the present study.

### 3. EMPIRICAL STUDIES

Iyawe & Osamwonyi (2017) proved the positive impact between the development of insurance sector and economic growth in African countries. But Lee et. al., (2016) showed a negative relationship between the development of the life insurance sector and economic growth. Using data panel data for ASEAN countries, Rudra Prahrad et. al., (2016) showed that there is a two-way relationship between the insurance penetration rate and economic rejection in the short run. Pradhan & Norman (2015) showed that the development of the insurance market and financial market in the long run are the causative factors of economic growth, and on the other hand, Granger causation reveals an inverse relationship between variables in the short run.

Kouchakzadeh (2015) investigated the causal relationship between the development of insurance sector and economic growth in Iran during the period from 1981 to 2013 by Granger causality test. The results showed that there is a causal relationship between the development of non-life insurance and economic growth, but not from economic growth to insurance development.

In an article entitled "Insurance and Economic Growth in Latin America" in 2014, Ángela Concha and Rodrigo Tabora came to the conclusion that there was a positive relationship between financial development and economic growth during the period from 1980 to 2009. Dirk broeders et. al., (2011) examined the positive relationship of the development of insurance sector in the stock market. Hasanzadeh et. al., (2010) pointed to the insignificant role of the insurance sector in the stock market. Molaei (2005) investigates the relationship between the premium received by insurance companies and their investment in the financial market and examines the positive impact of each of the two life insurance and non-life insurance premiums on the investment of

insurance companies in the financial market. Peter Haiss & Kjell Sumegi (2008) concluded that life insurance has a positive and significant impact on economic growth.

In this study, based on a review of previous domestic studies, the impact of the development of the insurance sector on Iran's economic growth has been made for the first time by examining the investment of insurance companies in the stock market.

**4. HYPOTHESES**

- The Insurance Sector Development has a significant effect on Economic Growth in Iran.
- The Investment of Insurance Companies in the stock market has a significant effect on Economic Growth in Iran.

**5. MODEL ESTIMATION**

To enter the analysis discussion, the regression model is initially introduced:

$$\ln(\text{GDPR})_t = \alpha_0 + \sum_{i=1}^n \beta_i \ln(\text{GDPR})_{t-i} + \sum_{j=0}^n \gamma_j \ln(\text{RINVE})_{t-j} + \sum_{j=0}^n \gamma_j \text{UNLP}_{t-j} + \sum_{j=0}^n \gamma_j \text{LPRE}_{t-j} + \sum_{j=0}^n \gamma_j \text{RTRADE}_{t-j} + \lambda \text{DUM} + \epsilon \quad (1)$$

**Table 1**  
**Introduction of variables**

<i>Variable name</i>	<i>Type of variable</i>	<i>Symbol</i>
Logarithm of GDP	Dependent	ln(GDPR)
Logarithm of insurance companies investment	Independent	ln(RINVE)
Non-life insurance penetration	Independent	UNLP
Life insurance penetration	Independent	LPRE
Rate of trade	Independent	RTRADE

Source: Research findings.

In Table 1, the variables of the model above and their abbreviated symbol have been presented.

In this research, the Augment Dickey-Fuller (ADF) test is used as a stationary test. The result of Augment Dickey-Fuller test is reported below:

**Table 2**  
**Result of Augment Dickey-Fuller test**

<i>Variable</i>	<i>Result</i>	<i>Dickey-Fuller test</i>	<i>Significance</i>
LNGDPR	I(2)	-16.10	0.000
LNINVE	I(2)	-4.95	0.001
UNLP	I(1)	-7.93	0.000
LPRE	I(1)	-6.24	0.000
RTRADE	I(2)	-12.84	0.000

Source: Research findings.

Given the nonstationary of the variables on the level, some variables are I (1) and some others are I (2).

The result of the Phillips-Perron unit root test is reported below:

**Table 3**  
**The result of the Phillips-Perron stationary test**

<i>Variable</i>	<i>Result</i>	<i>Phillips-Perron statistic</i>	<i>Significance</i>
LNGDPR	I(0)	-3.86	0.02
LNINVE	I(1)	-3.14	0.003
UNLP	I(0)	-5.05	0.001
LPRE	I(1)	-9.0009	0.000
RTRADE	I(0)	-4.11	0.01

Source: Research findings

Given the nonstationary of some variables in the level, some variables are I (0) and some others I (1). According to the results of the Dickey-Fuller and Phillips-Perron tests, the co-integration test for the variables under study should be performed and, if the variables are co-integrated, estimates can be made.

The null hypothesis in the Johansen test is based on the lack of co-integration of the variables studied and the hypotheses can be written as follows:

**H<sub>0</sub>**: The variables studied are not co-integrated.

**H<sub>1</sub>**: The variable studied is co-integrated.

To reject the null hypothesis, the significance level should be less than 0.05.

The Johansen co-integration test result is shown in the following table:

**Table 4**  
Johansen co-integration test results

Hypothesis	Trace statistic	Significance level	Result
Lack of long-run relationship	95.94	0.000	Rejection
Maximum of one relationship	49.65	0.03	Rejection
Maximum of two relationships	20.78	0.37	Confirmation

Source: Research findings.

According to the results obtained from the co-integration test, the estimation can be made despite the nonstationary of the variables in the level. In this study, the ARDL-Bounds testing approach is used to test the existence of a level relationship between variables.

In the following table, the result of the extra variable test for the equation (long-run relationship) is summarized:

**Table 5**  
Additional variable test results  
(Dependent variable: Logarithm of GDP)

Added variables: LNGDPR(-1) LNRINVE(-1) UNLP(-1) LPRE(-1) RTRADE(-1)

Variable	Coefficient	t statistic	Probability	Significance
Intercept	8.8	0.70	0.53	---
First lag of differential logarithm of GDP	0.57	0.74	0.50	---
First lag of differential logarithm of GDP	0.79	1.22	0.30	---
First lag of differential logarithm of insurance companies investment	-0.29	-1.78	0.13	---
Second lag of differential logarithm of insurance companies investment	-0.07	-0.52	0.63	---
First lag of differential non-life insurance penetration	-26.49	-1.34	0.27	---
Second lag of differential non-life insurance penetration	-5.4	-0.33	0.76	---

(Contd...)

Added variables: LNGDPR(-1) LNRINVE(-1) UNLP(-1) LPRE(-1) RTRADE(-1)

Variable	Coefficient	t statistic	Probability	Significance
First lag of differential life insurance penetration	432.2	2.93	0.06	*
Second lag of differential life insurance penetration	323.4	3.14	0.05	*
First lag of differential trade rate	-1.32	-0.88	0.43	---
Second lag of differential trade rate	0.51	0.34	0.75	---
First lag of the GDP logarithm	-0.84	-0.97	0.40	---
First lag of the logarithm of insurance companies investment	0.28	3.23	0.04	**
First lag of the non-life insurance penetration	73.7	2.12	0.12	---
First lag of the life insurance penetration	-667.5	-3.34	0.04	**
First lag of differential trade rate	0.73	0.43	0.69	---

Source: Research findings.

**Table 6**  
The results of testing the existence of a long-run relationship

Test name	Statistical distribution. Obtained statistics Significance	Result
Lagrange test	Chi (72.16) (***)	Confirming the existence of long-run relationship
Maximum likelihood test	Chi (31.40) (**)	Confirming the existence of long-run relationship
F-test	F (40.4) (---)	Confirming the existence of long-run relationship

Source: Research findings.

\*\*\*Significant with confidence level more than 99%.

---Insignificance.

In this test, the null hypothesis is based on the lack of a long-run relationship. The calculated value in the table, which is equal to 4.4089, is more than the critical value of 4.049, so the null hypothesis based on the lack of a long-run relationship is rejected. As can be seen, according to the test results, the existence of a long-run relationship is confirmed. In addition to the F test, Lagrange and maximum likelihood tests also emphasize on the existence of a long-run relationship.

Before model estimation, the correlation graph of model variables can be very suitable. Correlations represent the co-linearity of the model components. Pearson correlation, if more than 0.7 and significant, then there is a possibility of co-linearity in the model. In the table below, the correlation between the variables studied is presented by Pearson correlation method.

**Table 7**  
Pearson correlation between variables

	<i>Life insurance penetration</i>	<i>Rate of trade</i>	<i>Non-life insurance penetration</i>	<i>Logarithm of insurance companies investment</i>	<i>Logarithm of GDP</i>
Life insurance penetration	1.000				
Rate of trade	0.28 (0.19)	1.000			
Non-life insurance penetration	0.72 (0.000)	0.32 (0.14)	1.000		
Logarithm of insurance companies investment	0.24 (0.27)	-0.08 (0.71)	0.01 (0.95)	1.000	
Logarithm of GDP	-0.21 (0.33)	-0.74 (0.000)	-0.24 (0.27)	0.34 (0.11)	1.000

Source: Research findings.

One of the best ways to understand co-linearity in the model is to examine the correlation between the variables under study. According to the formula presented above, linear correlation has been investigated. As mentioned above, if the correlation between the variables of the model increases, the probability of co-linearity increases to the extent that if the correlation coefficient is greater than 0.7, then the probability of the co-linearity between the two variables is very high.

The correlation in the first line and the correlation significance in the second line are written. If the significance is less than 0.05, the desired correlation is statistically significant. As can be seen, there is a significant correlation between the variables studied in the model in some cases, but there is no significant correlation higher than 0.7 in most cases. But there is a very strong correlation between the two independent variables, i.e., the non-life insurance and life insurance penetration rates, which the strong correlation between them is reasonable due to the nature of these two variables.

**5.1. Short-run Estimate**

The short-run estimate of the research model will be as follows:

$$\ln(\text{GDPR})_t = \alpha_0 + \sum_{i=1}^n \beta_i \ln(\text{GDPR})_{t-i} + \sum_{j=0}^n \gamma_j \ln(\text{RINVE})_{t-j} + \sum_{j=0}^n \gamma_j \text{UNLP}_{t-j} + \sum_{j=0}^n \gamma_j \text{LPRE}_{t-j} + \sum_{j=0}^n \gamma_j \text{RTRADE}_{t-j} + \lambda \text{DUM} \quad (2)$$

As can be seen, this model is designed in such a way to examine the impact of lags of logarithm of GDP on the logarithm of GDP in the current period. Also, considering that independent variables in this model are the non-life insurance and life insurance penetration rates, as well as the logarithm of investment of insurance companies and the rate of trade, the model is designed in such a way that, in addition to the variables in the current period, the effect of independent variables in previous periods is also calculated on the GDP logarithm in the current period. To determine the appropriate lag of the influence of independent variables and lags of GDP logarithm on the logarithms of GDP in the current period, statistics such as Schwartz Bayesian (SBC), Akaike (AIC) and Henan Quinn (HQC) are used.

In the following table, a summary of the coefficients is presented in the short run.

**Table 8**  
Short-run Estimates

<i>Dependent variable: Logarithm of GDP</i>				
<i>Variable</i>	<i>Coefficient</i>	<i>t statistic</i>	<i>Probability</i>	<i>Significance</i>
First lag of the GDP logarithm	-0.59	-3.90	0.001	***
Logarithm of insurance companies investment	0.006	0.09	0.99	---
First lag of the logarithm of insurance companies investment	-0.14	-1.56	0.14	---

(Contd...)

Dependent variable: Logarithm of GDP				
Variable	Coefficient	t statistic	Probability	Significance
Second lag of the logarithm of insurance companies investment	0.26	4.24	0.002	***
Non-life insurance penetration	-3.15	0.47	0.64	---
First lag of the non-life insurance penetration	-11.45	-2.54	0.02	**
Life insurance penetration	-50.71	-1.78	0.10	---
Rate of trade	-0.95	-2.45	0.03	**
First lag of the trade rate	-1.08	-2.66	0.02	**
Intercept	21.99	10.19	0.000	***

Source: Research findings.

\*Significant with probability of more than 90%.

\*\*Significant with a probability of more than 95%.

\*\*\*Significant with probability of more than 99%.

---Insignificance.

**Table 9**

**The main characteristics of short-run estimates**

Characteristic	Value	Result
Coefficient of determination	0.91	Explaining the 91% change in logarithm of GDP in the short run
Durbin Watson	1.65	The lack of serial autocorrelation
PROB F_STAT	0.000	Good fit of the regression model
Schwartz Bayesian statistics	28.97	Determining the optimal lag

Source: Research findings.

In this paper, Schwarz statistics are used in the short run to determine optimal lag. The optimal lag is achieved when the Schwartz-Bayesian statistic is at its minimum that the minimum Schwartz statistics in this paper are 28.97, which represents an optimal lag.

In the following, statistical tests for the short-run model are presented.

**Table 10**  
**Statistical tests**

Test name	Statistic	Result
Serial Correlation (SC) Test	0.36	The lack of autocorrelation in the model
F test	5.95	The suitability of the consequential logarithmic model
White test	0.03	The lack of heteroscedastic variance in the model

Source: Research findings.

**5.2. Long-run Estimate**

In the following table, the long-run estimate for the regression model is given.

**Table 11**  
**Long-run estimate**  
**(Dependent variable: Logarithm of GDP)**

Variable	Coefficient	t statistic	Probability	Significance
Logarithm of insurance companies investment	0.07	2.91	0.01	**
Non-life insurance penetration	-9.17	-2.15	0.05	*
Life insurance penetration	-31.82	-1.81	0.09	*
Rate of trade	-1.28	-4.87	0.000	***
Intercept	13.80	47.68	0.000	***

Source: Research findings.

The error correction coefficient in this estimate is achieved to be -1.59 and is quite significant.

**Table 12**  
**Error correction coefficient**

Variable	Coefficient	t statistic	Probability	Significance
Error correction coefficient	-1.59	-10.48	0.000	***

Source: Research findings.

That is, if we move from time period  $t$  to  $t + 1$ , the 159 percent standard deviation of the GDP logarithm from its long-run path is modified by the model variables and moves towards its long-run equilibrium trend. Negative and more than one being of this coefficient and its significance, due to the seasonality of the data, and the fact that the separation of seasons is much less over the years, means the existence of a long-run equilibrium relationship and causality relationship by explanatory variables on logarithm of GDP.

**6. RESULTS**

The following results are obtained from the short and long run estimates:

- The short-run and long-run trade rates have a negative and significant effect on the GDP logarithm.
- The first lag of the trade rate in short run has a negative and significant effect on the GDP logarithm.

- The life insurance penetration rate in the short run has no significant effect on the logarithm of GDP and has a negative and significant effect (more than 90% confidence) on the GDP logarithm in the long run.
- The non-life insurance penetration rate in the short run in the current period has no significant effect on GDP logarithm.
- The non-life insurance penetration rate in the short run in the previous period has a negative and significant effect (more than 95% confidence) on the GDP logarithm of the current period.
- The non-life insurance penetration rate in the long run has a negative and significant effect (more than 90% confidence) on the logarithm of GDP.
- The logarithm of insurance company investment in the long run has a positive and significant effect (more than 99% confidence) on the logarithm of GDP.
- The logarithm of insurance company investment in the short-run only in the two previous periods has a positive and significant effect (more than 99% confidence) on the GDP logarithm of the current period.
- The first lag of GDP logarithm in the short run has a negative and significant effect (more than 99% confidence) on the GDP logarithm of the current period.

As a conclusion, evaluation of the hypothesis is presented in the following table.

**Table 13**  
**Evaluation of hypotheses**

<i>Item</i>	<i>Hypothesis</i>	<i>Result</i>
1	The Insurance Sector Development has a significant impact on economic growth in Iran.	Confirmation
2	The Investment of Insurance Companies in the stock market has a significant effect on economic growth in Iran.	Confirmation

Source: Research findings.

According to the research conducted, the following recommendation is presented:

The need to pay attention to investing in insurance companies improves financial markets, especially stock markets, which increase capital in insurance companies, thereby enhancing investment and improving economic growth. Thus, it is suggested that the government should pay special attention to the development of financial markets, including the insurance sector, and take the necessary steps to establish an insurance culture among the population groups, as well as create the necessary grounds for attracting shareholders to invest in insurance companies, which requires the creation of an institution and organization that provides investors with information about capital markets in a transparent and sound manner.

## REFERENCES

- Adams, M., Andersson, J., Andersson, L. and Lindmark, M., (2009). Commercial Banking, Insurance and Economic Growth in Sweden Between 1830 and 1998. *Accounting, Business & Financial History*, 19(1), pp. 21-38.
- Azizi, Firoozeh, (2001). Position Of Insurance Companies In The Country's Financial Market, *Insurance Industry Quarterly Journal*, P. 4, pp. 111-130.
- Blum, D., Federmaier, K., Fink, G And Haiss, P,(2002). The Financial-Real Sector Nexus: Theory and Empirical Evidence, *IEF Working Paper No. 43*, pp. 45-98.
- Broeders et. al., (2011). A Utility-Based Comparison of Pension Funds and Life Insurance Companies Under Regulatory Constraints, *Insurance: Mathematics and Economics*, Volume 49, Issue 1, July 2011, Pages 1–10.
- Bakhshi, L, (2003). Measurement of Concentration in Iranian Cement Industry. *Quarterly Journal of Business Research*, No. 26.
- Catalan, M., Impavido, G. and Musalem, A.R, (2007). Contractual Savings or Stock Markets Development: Which Leads?. *Policy Research Paper No. 2421*, World Bank, Washington, pp. 78-123.
- Concha, A, Taborda, R, (2014). Insurance Use And Economic Growth in Latin America, Some Panel Data Evidence, *Lecturas De Economia*, 81, pp. 31-55.
- Han, L., Li, D., Moshirian, F. and Tian, Y, (2010). Insurance Development and Economic Growth. *The Geneva Papers on Risk and Insurance*, 35(3), pp. 183-99.

- Haiss, Kjell Sümegi, (2008). The Relationship of Insurance and Economic Growth - A Theoretical and Empirical Analysis, *Emprica, Journal of Applied Economics and Economic Policy*, Vol. 35, No. 4, pp. 405-431.
- Hasanzadeh, Ali; Asgari, Mohammad Mahdi, Kazemnejad, Mehdi, (2010). The Investigation of the Position of the Insurance Industry in the Economy and Capital Market of Iran, *Journal of Research*, No. 98 [Scientific-Extension], 165 - 200.
- Janali, D, Salehi, M, (1993). Rights of the Injured Party and Third Party Insurance, Tehran University's Management Faculty Publication, P. 182.
- Jafari Samimi, Ahmad, Kardgar, Ebrahim, (2007). Development Of Insurance And Economic Growth: Theoretical And Experimental Analysis In Iranian Economy, *Commercial Research*, No. 45, 85-113.
- Kadkhodaei, Hossein, (2001). Insurance, Bank And Stock Exchange: Like Financial Development, *Insurance Industry Quarterly*, No. 64, pp. 44-131.
- Kouchakzadeh, Somayeh, (2015). Investigation of Relationship Between Insurance and Economic Growth in Iran, First International Management Conference, Economics, Accounting and Educational Sciences, Sari, Future Research and Advisory Company, Payame Noor University of Neka.
- Kugler, M. and Ofoghi, R, (2005). Does Insurance Promote Economic Growth? Evidence From the UK Paper Presented at the Money Macro and Finance (MMF) Research Group Conference, 12(2), pp. 156-213.
- Lee, C, Chang, C, Arouri, M, Lee, C, (2016). Economic Growth and Insurance Development: The Role of Institutional Environments, *Economic Modelling* 59, pp. 361-369.
- Levine, R, (2004). Finance and Growth: Theory and Evidence, Forthcoming Handbook of Economic Growth.
- Iyawe, O, Osamwonyi, I, (2017). Financial Development and Life Insurance Demand in Sub-Sahara Africa, *International Journal of Financial Research*, 8(2), pp. 163-175.
- Merton, R.C. and Z. Bodie, (2004). The Design of Financial Systems: Towards a Synthesis of Function and Structure, National Bureau of Economic Research, Working Paper, 10620.
- Molaei, Abdullah, (2005). Investigation of the Effect of Insurance Premiums Received by Insurance Companies on their Investment in the Financial Market (With an Emphasis on Life Insurance), *Insurance Industry Quarterly*, Year 20, No. 1, pp. 151-170.
- Pradhan et. al., (2016). Insurance Penetration And Economic Growth Nexus: Cross-Country Evidence From ASEAN, *Research In International Business And Finance*, Volume 36, January 2016, Pages 447-458.
- Pradhan, R, Norman, R, (2015). Insurance Development And The Finance-Growth Nexus: Evidence from 34 OECD Countries, *Journal of Multinational Financial Management*, 1-45.
- Davoudi SMM, Fartash K, Venera G. Zakirova, Asiya M. Belyalova, Rashad A. Kurbanov, Anna V. Boiarchuk, Zhanna M. Sizova (2018). Testing the Mediating Role of Open Innovation on the Relationship between Intellectual Property Rights and Organizational Performance: A Case of Science and Technology Park, *EURASIA Journal of Mathematics Science and Technology Education*, 14(4), 1359-1369.
- Fartash K., Davoudi, S.M.M., Tatiana A. Baklashova, Natalia V. Svechnikova 4, Yulia V. Nikolaeva, Svetlana A. Grimalskaya (2018). The Impact of Technology Acquisition & Exploitation on Organizational Innovation and Organizational Performance in Knowledge-Intensive Organizations, *EURASIA Journal of Mathematics Science and Technology Education*, 14(4), 1497-1507.
- Tastan, S.B., & Davoudi, S.M.M. (2015). An Examination of the Relationship between Leader-Member Exchange and Innovative Work Behavior with the Moderating Role of Trust in Leader: A Study in the Turkish Context. *Procedia social and behavioral sciences*, Elsevier, 181, 23-32.

