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ECONOMETRIC ASSESSMENT OF FACTORS AFFECTING THE DEVELOPMENT OF LIFE INSURANCE IN UZBEKISTAN

MAFTUNA TUKHTAROVA

Abstract

This article presents an econometric assessment of the role of the insurance industry in the economy of Uzbekistan and the factors influencing the development of life insurance. It also covers the scientific theoretical research of scientists studying the economics of insurance. In addition, the development of accumulative life insurance in Uzbekistan was econometrically analyzed and Uzbekinvest Life Insurance Company was selected as a sample from the package. The econometric analysis of the development of insurance activities of the insurance company "Uzbekinvest Life" identifies the main factors influencing its development. Factors influencing the development of Uzbekinvest Life insurance company through econometric models were assessed. In addition, proposals were made for the development offunded life insurance in Uzbekistan.

Keywords:
Insurance, Insurance Economy, Life Insurance, Accumulative Life Insurance, Econometric Analysis of Insurance Development, Uzbekinvest Hayot Insurance Company, Insurance Market.

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INTRODUCTION

In the world economy, insurance plays a special role in preventing risks in the social and economic spheres and compensating for losses. In particular, the need to plan measures to pre-finance both negative and positive events that are likely to occur, in order to eliminate the risks associated with human health and life, is very high. Therefore, “the share of general insurance in the global insurance market is 45-46%, while the role of life insurance is 54-55%. Accumulated insurance premiums make up 8-10% of the GDP of developed countries, and about 60% of it is the share of life insurance "[1]. This shows the role of life insurance in the development of the world economy and the high demand for it.

Accumulated life insurance is important for the economy of the country and its citizens, because through this insurance, the damage to the family economy as a result of various unforeseen events related to human life, health and ability to work is covered in a timely manner. For the country's economy, large-scale long-term investments are directed by long-term life insurance companies. With this in mind, the Government of Uzbekistan pays special attention to the development of this insurance sector. This is evidenced by the development of new innovative types of life insurance services in the "Road Map" of the

Resolution of the President of the Republic of Uzbekistan dated August 2, 2019 "On measures to reform the insurance market and its rapid development" [2]. the issue of introduction has been singled out.

According to the research of Russian scientist K.G Voblyy, the history of insurance business is an integral part of the insurance economy. In order to accurately assess the current state of insurance business, we need to study the history of insurance business [3].

Based on our research, we have divided the scientific views on the formation and development of insurance and life insurance in the XIX-XXI centuries into three periods.

The division into periods was based on the following criteria:

In our opinion, the characteristics given above determine the essence and economic nature of insurance and life insurance at each stage of the formation and development of insurance theory.

The Russian researcher A. Butovsky's concept of life insurance refers to life insurance, in which the purpose of life insurance is accumulation, life insurance consists of lifelong and term types, the types of risks involved are death and reaching a certain age, the tariff, the use of mathematical and statistical methods in the calculation and the inevitability of making a profit are given [5].

The initial definitions include:

- The fact that insurance transactions are aimed at the benefit or profit of both parties;
- Has the appearance of a contract based on mutual obligations of the parties;
- That insurance risks are of an emergency nature.

The introduction by foreign theorists of a concept aimed at clarifying the category of "insurance", which includes the characteristics of all types of insurance, has led to discussions among different views on its essence. This also led to the formation of the above theories [6].

The founder of the theory of damage distribution is a well-known foreign scientist A. Wagner. Using this theory, he determined the place of insurance in the economy - arguing that insurance is based on the principle of mutual trust, which consists in the elimination of unforeseen emergencies. Although the aim of such views quoted by foreign authors was to form a single view-understanding among scientists on the field of insurance, these views did not reflect the quality indicators of insurance and life insurance [7].

The definition of "life insurance" by the Russian scientist A.P Malshinsky in the framework of this theory states that this insurance has a risky nature (death insurance), recognizing that its property-reducing properties are aimed not only at the individual insured, but for society as a whole. given Accumulated life insurance is denied by the economist and likens it to a lottery. Studying foreign experience in life insurance, he describes such insurance transactions based on the "income accumulation system" [8].

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METHODS

In order to carry out an econometric analysis of the development of accumulative life insurance in Uzbekistan, Uzbekinvest Life Insurance Company was selected as a sample from the general package. In modeling the development of Uzbekinvest Life Insurance Company, it is important to create a multi-factor econometric model rather than a dual econometric model. This is because the multifactor econometric model covers all the factors that affect the key performance of the insurance industry and assesses the impact of each factor change on the outcome factor.

In general, the multifactor econometric model looks like this:

$$У = {}^{P}0 + {}^{P}Л\ 2^{X}2 + ... + +{}^{P}2^{X}2\ {}^{+£}, \qquad (1)$$

In the determination of unknown P_0, Д, P_2,...,P_n parameters in this multifactor econometric model, a system of normal equations of the following form was created:

$${}^{np}c + {}^{p} Z\ {}^{x}i + {}^{P} Z\ {}^{X}2 + - {}^{+} Pn\ Z\ {}^{x}« = Z\ У$$

$${}^{P}0\ Z\ {}^{x}1 + {}^{P} Z\ {}^{X}1^{2} + {}^{P} Z\ {}^{X}1^{x}2 + ... + {}^{P}n\ Z\ {}^{X}1^{X}n = Z\ У\ '\ {}^{x}1 \qquad (2)$$

$$Ac\ Z\ {}^{X}n + {}^{P}1\ Z\ {}^{X}n^{x}1 + {}^{P}2\ Z\ {}^{X}n^{X}2 + ... + {}^{P}n\ Z\ {}^{x}n^{2} = Z\ У\ '\ x_n$$

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The Kramer method was used to calculate the values of unknown parameters fi_0, P_1, P_2,..., P_n in this system of equations [8].

Based on the calculated values of the unknown parameters, a mathematical view of the multifactor econometric model can be obtained.

If the units of measurement of the variables in the multivariate econometric model are different, then the values of all the factors involved in the model are logarithmized and have the following view:

$$^{\ln(}y) = {}^{\ln(P}o) + {}^{P}i\ {}^{\ln}(^{x}i) + {}^{P}2^{\ln(x}2) + .. + {}^{P}n^{\ln(x}n) +^{\ln} e' \qquad (3)$$

All unknown parameters in this multifactor econometric model can also be calculated by the Kramer method.

Thus, the "smallest squares method" is used in the econometric modeling of development indicators of Uzbekinvest life insurance company.

The multi-factor econometric model developed for the development of Uzbekinvest life insurance company is examined by a number of criteria. Based on the model that has passed all the tests, it will be possible to forecast the performance of the insurance industry for future periods [9].

The determination coefficient is used to determine the percentage (y) of the factor in the multivariate econometric model and the factors included in the model, and it is calculated as follows:

$$R2 = 1 - 4 = 1\text{-}R\wedge = 1\text{-}R\wedge \qquad (4)$$

$$a^2_y\ TSS\ /\ n\ TSS$$

Here:

$n \quad n$

$RSS = \wedge£? = \wedge(y - y)^2$ - the sum of the squares of the regression residues;

$i \quad =1\ i \quad =1$

n

$TSS = \wedge\ (y - y\ )^2 = n \bullet <x^2$ - total variance;

i=1

У, У, У - are the actual, calculated, and average values of the resulting factor, respectively.

In order to be able to compare the models with different quantities of factors and to ensure that these quantitative factors do not affect the R2 statistic, a flattened determination coefficient is usually used, namely:

$-^2$

$$R2j.= 1 - -2 \qquad (5)$$

Fisher's F-criterion was used to verify the statistical significance of the multifactor econometric model of Uzbekinvest life insurance company on the indicators of insurance activity development, which was calculated using the following formula:

$$F_{хисоб} = \frac{R^2}{1 - R^2} \cdot \frac{n-m-1}{m}, \quad (6)$$

where: R^2 - coefficient of determination; n - number of observations; m - number of factors.

If the calculated value of the F-criterion is greater than the value in the table, then the constructed multi-factor econometric model is said to be statistically significant or adequate to the process under study.

In finding the tabular value of the F-criterion, the values = m, $\&_2 = n - m - 1$are calculated according to the degrees of freedom as well as the degree of significance.

If the condition $F\wedge_{uc}\wedge_6>F_{M:adeam}$ is satisfied, this indicates that the calculated value of the F-criterion is greater than the value in the table and that the constructed multifactor econometric model is statistically significant [10].

The Student's t-criterion was used to test the reliability of the constructed multifactor econometric model parameters and correlation coefficients.

By comparing the calculated $(t\wedge_{uco6})$ and table $(t_{жадвал})$ values of the student's t-criterion, the Ho hypothesis is accepted or rejected. To do this, the table value of the t-criterion is found based on the selected reliability probability (a)and degree of freedom (d.f. = n-m-1) conditions. Here n - the number of observations, m - the number of factors.

For the calculated parameters in the multifactor econometric model, the condition of this table must also be satisfied. This shows that all the coefficients in the multifactor econometric model are reliable.

In the econometric analysis of the development of insurance activities of the insurance company "Uzbekinvest Life" it is expedient to identify the main factors influencing its development and bring it to the appearance of time series [11].

Thus, in order to create a multifactor econometric model for the development of life insurance in Uzbekistan, a number of factors were selected from the data of Uzbekinvest Life Insurance Company from the annual data for 2008-2019 (Appendix 1):

Y - result indicator - insurance premiums of Uzbekinvest Life Insurance Company (million soums),

Influencing factors, ie regressors:

Xj - Insurance coverage of Uzbekinvest Life Insurance Company (million soums)

X_2 - Number of insurance contracts of Uzbekinvest Life Insurance Company (units)

X_3 - GDP of the Republic of Uzbekistan, (billion soums)

X_4 - GDP per capita of the Republic of Uzbekistan (thousand soums)

X_5 - Inflation rate in the Republic of Uzbekistan (%)

X_6 - Official exchange rate of the US dollar in the Republic of Uzbekistan (thousand soums)

X_7 - Currency devaluation of the Republic of Uzbekistan (%)

X_8 - real gross per capita income of the Republic of Uzbekistan (thousand soums)

Since the unit of measurement of the 8 variables selected is different, we can logarithmize all the factors.

On the basis of these time series, descriptive statistics are conducted before the econometric model is developed. To do this, it is advisable to use a special econometric modeling program - Stata 14.

Results of the Normal Distribution of Factors Test

Skewness/Kurtosis tests for Normality

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Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
ehat	12	0.5488	0.2165	2.21	0.3315

Visually, the test results can also be shown in Figure 1.

It can be seen from the picture that all the factors studied are not so much subject to the law of normal distribution. However, we continue to test hypotheses using a scientific abstraction approach.

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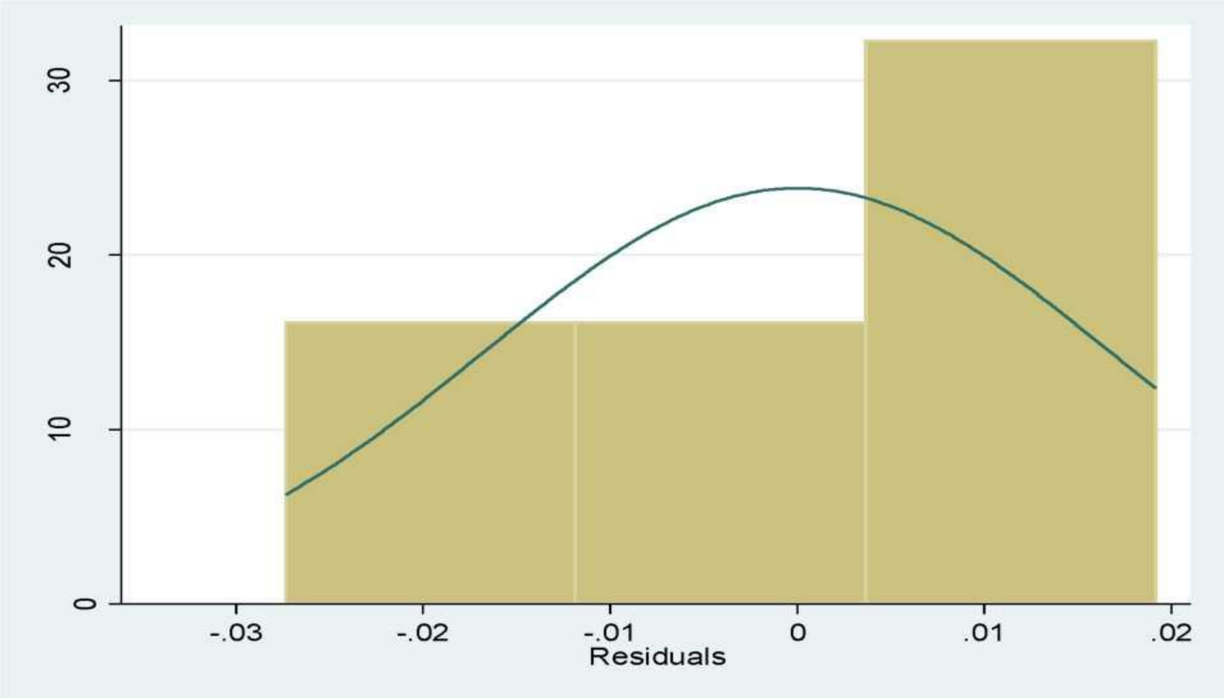
Figure 1- Graph of Normal Distribution Functions of Factors



All indicators are at the norm level, then the density of correlations between factors (variables) is determined. To do this, a correlation analysis is performed and the correlation coefficients between the factors are calculated. The correlation coefficient between the two factors is calculated using the following formula:

$$r = \frac{Y \blacksquare X - Y \blacksquare X}{\&X \cdot \&Y}$$

Here $C7_X\ O_Y$ - shows the standard deviation of the factors.

The specific correlation coefficient is the density of the relationship between the resulting factor (y) ва унга таъсир этувчи омиллар and the factors influencing it (x) (Table 1).

The double correlation coefficients reflect the interrelationships between the influencing factors (*xi*).

A multicollinearity problem can arise when calculating correlation coefficients between factors. Multicollinearity is a concept that indicates a close connection between two influencing factors.

Table 1- Specific and Double Correlation Coefficients between Factors Matrix

. cor lnY lnX1 lnX2 lnX3 lnX4 lnX5 lnX6 lnX7 lnX8 (obs=12)

	lnY	lnX1	lnX2	lnX3	lnX4	lnX5	lnX6	lnX7	lnX8
lnY	1 0000								
lnX1	0 6800	1 0000							
lnX2	0 7 4 4 9	0 3965	1 0000						
lnX3	0 6777	0 4876	0 3985	1 0000					
lnX4	0 9998	0 6836	0 7422	0 677 4	1 0000				
lnX5	0 5986	0 5753	0 7589	0 4051	0 5973	1.0000			
lnX6	0 9435	0 7186	0 8082	0 6328	0 9447	0.8051	1.0000		
lnX7	0 2491	0 0580	0 1022	0 1267	0 24 94	0.1275	0.2771	1.0000	
lnX8	0 9396	0 6336	0 8058	0 6351	0 9419	0.6722	0.9605	0.2186	1.0000

As can be seen from Table 1, the specific correlation coefficients are the density of the relationship between the resulting factor and the factors influencing it. Thus, the specific correlation coefficients indicate that there is a strong correlation (except for lnX7) between the output factor (volume of insurance premiums of Uzbekinvest Life Insurance Company, lnY) and the influencing factors, ie the value of private correlation coefficients greater than 0.7. In addition, Table 2 also contains double correlation coefficients, which show the bond densities between the influencing factors (lnXi, lnXj). The most important thing here is that the influencing factors should not be closely related to each other. That is, there should be no multicollinearity. If the value of the double correlation coefficient between the two influencing factors is less than 0.7, multicollenity is said to benon-existent. From the data in Table 1, it can be seen that the bond densities between the influencing factors X4, X5, X_6, X_8 are greater than 0.7, and there is multicollenity between these influencing factors.

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Table 2- Results of Descriptive Statistics on Factors

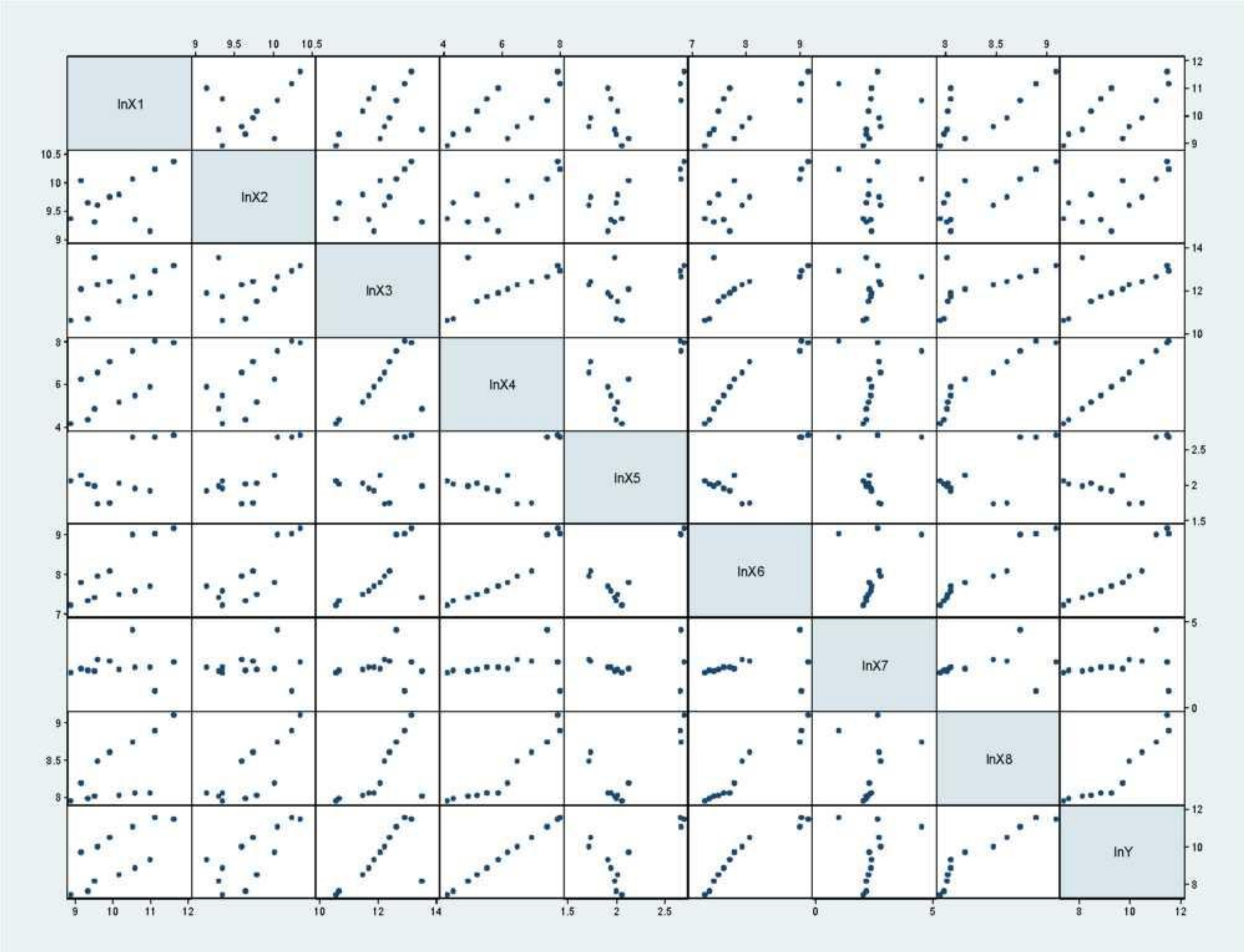
. pwcorr lnX1 lnX2 lnX3 lnX4 lnX5 lnX6 lnX7 lnX8 lnY,sig

	l nX 1	lnX2	lnX3	lnX4	lnX5	l nX6	lnX7
lnX1	1 0000						
lnX2	0 3965	1 0000					
	0 2 019						
lnX3	0 4876	0 3985	1 0000				
	0 1078	0 1995					
lnX4	0 6836	0 7422	0 6774	1 0000			
	0 0142	0 0057	0 0155				
lnX5	0 5753	0 7589	0 4051	0 5973	1 0000		
	0 0503	0 0042	0 1914	0 0403			
lnX 6	0 7186	0 8082	0 6328	0 9447	0 8051	1 0000	
	0 0085	0 0015	0 0272	0 0000	0 0016		
lnX7	0 0580	0 1022	0 12 67	0 2494	0 1275	0 2771	1 0000
	0 8579	0 7518	0 6949	0 4343	0 6930	0 3833	
lnX8	0 6336	0 8058	0 6351	0 9419	0 6722	0 9605	0 2186
	0 0270	0 0016	0 02 65	0 0000	0 0166	0 0000	0 4949
lnY	0 6800	0 7449	0 6777	0 9998	0 5986	0 9435	0 2491
	0 0150	0 0054	0 0154	0 0000	0 0397	0 0000	0 4349

	lnX8	lnY
lnX8	1 0000	
lnY	0 9396	1.0000
	0 0000	

In addition, Table 2 calculates the coefficients for determining the reliability and probability of correlation coefficients. At the bottom of each correlation coefficient is its value and probability calculated as a t-student criterion. The probability that the calculated probability between the factors is not greater than 0.05 is set. For example, lnY - is the private correlation coefficient between the volume of insurance premiums of Uzbekinvest Hayot insurance company (lnY) and the GDP per capita of the Republic of Uzbekistan (lnX4) and is equal to. $r_{\ln 71 \ln X\ 4}$ = 0,99, ва prob. = 0,0000. This indicates that there is a strong correlation between these two factors, that the specific correlation coefficient is reliable, and that there is a positive correlation between the two factors with 99% accuracy.

Figure 2- Graph of the Correlation Matrix between Factors



According to the double correlation coefficients, for example, the private correlation coefficient between the volume of insurance premiums of Uzbekinvest Life Insurance Company (lnY) and the devaluation of the currency of the Republic of Uzbekistan (lnX7) is equal to ^{r}inx4inx 7 = 0,2491 ва prob. = 0,43. This suggests that there is a weak correlation between these two factors and that the double correlation coefficient is unreliable.

1. Results

Hence, the correlation coefficients between the factors included in the multifactor econometric model appear to meet the requirements for value and probability calculated as the t-student criterion. Based on these factors, it will be possible to create a multifactor econometric model that determines the amount of insurance premiums of Uzbekinvest Life Insurance Company.

Another way to check for the absence of multicollenearity between influencing factors is to calculate VIF (Variance Inflation Factors) coefficients. The calculated VIF coefficients for each factor are given in Table 3 below.

Table 3- Measurement of Multicollinearity effect among influencing Factors Variance Inflation Factors

Date: 01/15/20 Time: 08:23

Sample: 2008S1 2019S2

Included observations: 12

Variable	VIF 1/VIF
lnX 6	500.25 0.001999
lnX4	102.01 0.009803
lnX8	84.42 0.011846
lnX5	62.20 0. 016077
lnX2	8.99 0.111216
lnX1	3.56 0.280671
lnX7	2.68 0.373317
lnX3	2.34 0.427459
Mean VIF	95.81

If there is multicollarity between the influencing factors, then VIF> 10. As can be seen from Table 2.3.4, the VIF coefficients of influencing factors such as X1, X2, X3, X7 are less than 10. Hence, this also indicates that there is no multicollinearity between influencing factors, such as correlation analysis. On the other hand, the VIF coefficients of influencing factors such as X4, X5, X6, X8 are greater than 10, which indicates the presence of multicollinearity between influencing factors.

Source	SS	df	MS	Number of obs =		
				F(8,	3) =	2
Model	22 . 637 4 603	8 2.	82 968254	Prob	> F =	
Residual	. 00308132 9	3	00102711	R-squared =		
				Adj	R-squared =	
Total	22.6405416	11 2.	05823106	Root	MSE =	.

lnY	Coef.	Std. Err.	t	P>|t|	[95% Co nf.	In
l nX1	-.0027 85	0211573	-0 . 13	0 . 904	-.07 0117 1	.064
lnX2	-.0140152	. 07 41722	-0 .19	0 . 862	-.2500642	. 22
l nX3	-.0020487	.0162 4 06	-0 . 13	0 . 908	-.0537335	. 0
lnX4	1.155934	.0718844	16 . 08	0 . 001	.9271662	1.3
lnX5	.2519386	.2176365	1 . 1 6	0 . 331	-. 4406778	.94
lnX6	-. 3387 988	.30 92 4 92	-1 . 1 0	0 . 353	-1.322968	.
lnX7	.014 7 95	.01957 32	0 .76	0 . 505	-.0474956	. 07 7
l nX8	.104 1137	.2177096	0 . 4 8	0 . 665	-.5887355	.79
cons	3.911369	.7740807	5 . 05	0 . 015	1.447898	6.3

Using the data in Table 4, we present a mathematical view of the multivariate econometric model:

$\ln y = 3{,}9113 - 0{,}0278\ln X_j - 0{,}1401\ln x_2 - 0{,}0020\ln x_3 + 1{,}1559\ln x_4 +$

(8)

$+ 0{,}2519\ln x - 0{,}3387\ln x_6 + 0{,}1479\ln x7 + 0{,}1041\ln x8$

In this model, the determination coefficient R2 is 0.99, which can represent 99.9% of the set. However, the p-probe, which represents the level of significance of the model, is 0.904 in X1, 0.862 in X2, 0.908 in X3, 0.331 in X5, 0.353 in X_6, 0.505 in X7, and 0.665 in X_8. which means that these factors are irrelevant. In fact, the value of the conducted p-probe should be less than 0.05. Also, the presence of multicollenity between factors X4, X5, X_6, X_8 indicates the presence of multicollenity between factors with a bond density greater than 0.7 and a VIF-value greater than 10.

Using the data in Table 5, a multifactor econometric model was structured:

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Table 5- Selected Regression Model of Uzbekinvest Life insurance Company Development

. reg InY lnX4 lnX5 lnX6

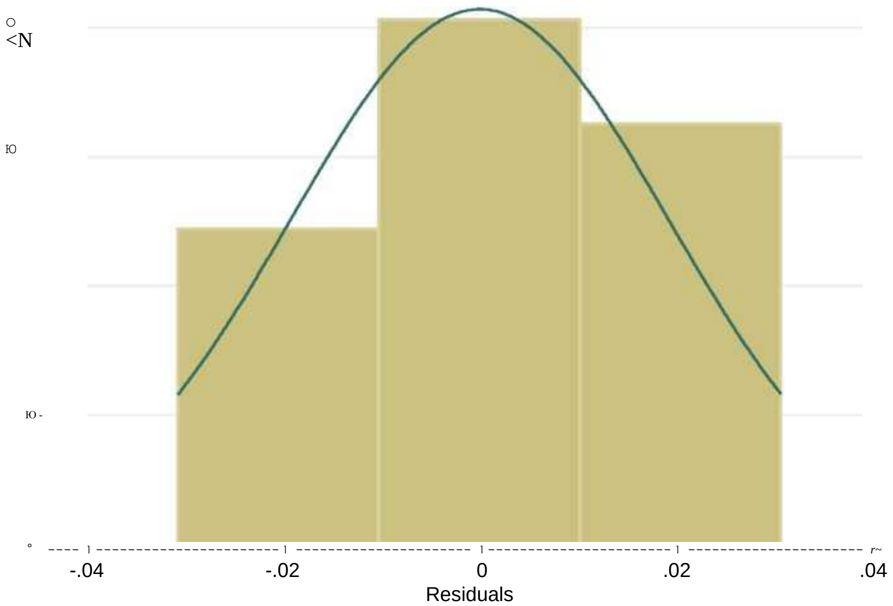
Source	SS	df	MS		
				Number of obs =	
				F(3, 8) =	148
Mode l	22.636465	3	7. 54548834	Prob > F =	0
Residual	. 00407 6638	8	00050958	R-square d =	0
				Adj R-squared =	0
Total	22.6405416	11	2. 05823106	Root MSE =	. (

lnY	Coef .	Std. Err.	t	P>|t|	[95% Conf.	Int
lnX4	1.122862	.0280937	39 97	0 000	1.058078	1.1

A regression model is developed for each group of factors, from which the highest significance is selected. Given that the number of observations is 12, the number of acceptable factors is required to be 4 times less and the number of factors should not exceed 3. Skewness and Courts are tested to determine the normal distribution of each factor.

2. Discussions

Figure 3- Graph of Normal Distribution of Selected Factors



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As can be seen from Figure 3, all the factors studied are subject to the law of normal distribution.

The table above also shows that all the factors studied are subject to the law of normal distribution.

Table 6 - Normal Distribution of Selected Factors

Skewness/Kurtosis tests for Normality

--------- joint --------------------

Variable	Obs Pr(Skewness) Pr(Kurtosis) adj chi2(2)	Prob>chi2
ehat	12 0.7835 0.5732 0.40	0.8203

Using the data in Table 6, we present a mathematical view of the multivariate econometric model:

$$\ln y = 3{,}8077 + 1{,}1228\ln x_4 + 0{,}1451\ln x_5 - 0{,}1824\ln x_6 \quad (9)$$

To check the quality of the multifactor econometric model (9), we check the determination coefficient. The coefficient of determination indicates the percentage of the resulting factor that is included in the model. The calculated determination coefficient (R2 - R-squared) is 0.9998. This indicates that 99.98% (9) of the volume of insurance premiums of Uzbekinvest life insurance company consists of factors included in the multifactor econometric model. The remaining 0.02 percent is the result of the influence of factors not taken into account.

The fact that the standard errors of the factors in the multifactor econometric model (9) also adopted small values indicates that the statistical significance of the model is high.

In order to be able to compare the models with different quantities of factors and to ensure that these quantitative factors do not affect the R2 statistic, a flattened determination coefficient is usually used, namely:

(10) $$R^2_{adj.} = 1 - \frac{s^2}{s_y^2}$$

The fact that the Adjusted R-squared coefficient is equal to 0.9753 and that it is close to R2 means that the model can accept values around a change in the number of influencing factors.

Fisher's F-criterion is used to verify the statistical significance or adequacy (suitability) of a multifactor econometric model (10) for the process under study. Fisher's calculated F-criterion Prob.> F has a value of 0,000, and the multifactor econometric model (10) is statistically significant.

A Breush-Pagann test is performed to check for the presence of a heterescedasticity problem in the regression model, and the results can be seen in this table. It can be concluded that there is no problem of heteroskedasticity in model 10, the model is adequate.

Table 7- Results of the Hetexedastistic Test of the Regression Model

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity Ho: Constant variance Variables: fitted values of lnY

chi2(1)	0.48
Prob > chi2	0.4866

CONCLUSION

The econometric assessment mentioned above serves as an important basis for the development of life insurance. At the same time, the existence of strong competition between life insurance companies and the open presentation of information about companies leads to an increase in demand for insurance products [12].

The calculated multi-factor econometric model shows that if the GDP per capita of the Republic of Uzbekistan (lnx4) increases by an average of 1.0%, the volume of insurance premiums (lny) of Uzbekinvest life insurance company may increase by an average of 1.1228%. Here it is assumed that this effect will occur as a result of an increase in the income of the population. An average increase of 1.0% in inflation (lnx5) in the country leads to an average increase in the volume of insurance premiums (lny) of Uzbekinvest Hayot by 0.145%. This has a direct effect on inflation and proves that the model is logically adequate.

There is an average increase of 1.0% in the official exchange rate of the US dollar in the Republic of Uzbekistan (lnx6), a decrease in the volume of insurance premiums (lny) of Uzbekinvest life insurance company by an average of 0.1824%. This inverse relationship is also reflected in the correlation matrix between factors.

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Information of Uzbekinvest Life Insurance Company

№	Indicators / Years	Insurance premiums (billion soums)	Insurance coverage (billion soums)	Insured customer classicization: Revenues from legal entities (billion soums)	Insured customer classicization: Individuals falling income (billion soums)	Insurance number of contracts	GDP	Per capita (thousand soums)	Inflation %	Dollar Kursi (thousand soums)	Devaluation %
1	2008	1.69	0.73	0.34	0.55	11560	38.9	63	7.8	1389	7.6
2	2009	2.08	1.12	0.51	0.82	15432	43.3	76	7.4	1511	8.7
3	2010	3.51	1.35	0.73	0.71	10976	74.04	125	7.3	1640	8.5
4	2011	4.83	2.60	1.16	1.68	17771	96.9	172	7.5	1795	9.5
5	2012	7.17	3.97	1.98	2.05	11521	120.2	243	7	1984	10.5
6	2013	10.79	5.96	3.53	3.09	9376	144.5	360	6.8	2202	10.9
7	2014	16.5	9.4	4.27	6.47	22535	177.1	503	8.4	2418	9.8
8	2015	21.9	14.6	3.33	12.59	14686	210.1	706	5.6	2809	16.1
9	2016	36.0	20.3	3.39	24.42	17037	242.4	1160	5.7	3231	15
10	2017	63.5	37.6	4.39	49.33	23405	302.5	1944	14.4	8120	151.3
11	2018	101.2	68.1	9.08	82.94	28000	406.6	3043	14.3	8339	2.7
12	2019	95.1	110.4	8.98	77.99	31404	511.8	2804	14.9	9507	14

1. On the basis of the characteristics of socio-economic relations corresponding to certain periods.
2. On the basis of the theoretical views of foreign scientists on the development of scientific views of domestic scientists on insurance and life insurance.