



Determinants Of The Profitability Of The Insurance Sector And Fund Creation An Applied Study On The Insurance Sector In The Kingdom Of Saudi Arabia

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Abstract: The main objective of the study is to determine the factors affecting the profitability of life insurance companies operating in the Saudi Arabia market, the study was based on the published data of three life insurance companies during the period from 2016-2020, and in achieving that goal the researcher relied on using the method of factor analysis, given its statistical ability in extract and summarize the most important factors affecting the variable under study. The researcher concluded that there are several determinants that have a direct relationship with the profitability of these companies, which are (net earned premiums - profit from investment activity - other revenues), as well as the existence of an inverse relationship to the variables represented in (reinsurance commissions - net paid claims - underwriting costs - change in the value of the mathematical reserve - general and administrative expenses) with profitability. The researcher recommended the necessity of spreading awareness among believers on the necessity of assessing profitability considering the determinants that affect, as well as the necessity of applying methods for distributing these profits based on objectivity and fairness in distribution to policyholders.

Key words: life insurance, profitability, Principal Component Method.

Introduction

The profitability of life insurance companies depends on a group of main activities related to underwriting and investment. Life insurance policies with participation in profits occupy a large proportion of the total documents spread in the Saudi Arabia market, and life insurance companies rely on estimating the share of each document from the profits to be distributed to the joint policyholders in Profits are based on several methods, such as estimation in the form of a percentage of the premium, estimation in the form of a percentage of the sum insured, estimation on the basis of

contribution to profit. By examining the methods of estimating the profits of the issued documents with sharing in the profits, we find that they are not based on factors or determinants that affect the achievement of these profits, which encouraged the researcher to analyze and study the most important factors that contribute to the formation of this profit, and then the possibility of formulating a number of recommendations in light of Results of the analytical study.

The problem of the study is that there are significant discrepancies in the values of actual profits achieved and apparent in the financial statements of life insurance companies operating in the Saudi Arabia market under study, which indicates the difficulty of identifying the determinants of the impact on profit and the possibility of estimating it in the future, and accordingly, the study seeks to answer the following question: "What is the relationship of the profitability of life insurance companies represented in the return on assets ROA as a dependent variable with one or more of the following independent variables: net earned premiums - reinsurance commissions - net claims paid - underwriting costs - change in the value of the account reserve - general and administrative expenses - Profit investment activity - other revenues", see (Al-Hajami,2016)& (Ishmael,2010).

The main objective of the study is to determine the most important factors affecting the profitability of the life insurance companies under study, and whether these factors differ in terms of the extent of each effect on the profitability of these companies. The importance of the study stems from the importance of identifying the determinants of the impact on the profitability of life insurance companies operating in the Saudi Arabia market, and then the possibility of determining its parameters and ease of estimating it in the future, which in turn is reflected in determining the share of each document in an objective way, see (Ines,2008)& (Al-Zubaidi,2011).

The researcher dealt with the descriptive approach in the theoretical part commensurate with the nature and type of the study, by reviewing the determinants of the impact on the profitability of life insurance companies. The researcher also followed the quantitative approach based on the use of the Factor Analysis method, which is a statistical method used in dealing with multiple data linked between them. With different degrees of correlation, and they are summarized in the form of independent classifications based on the qualitative foundations of classification. Therefore, this method deals with examining the correlational relations between a number of variables and extracting the general classification foundations between them, see (Al-Tarawneh,2015)& (Hock,2010).

To achieve the objectives of the study, the following hypothesis has been formulated, which will be subject to study and analysis: "There is no statistically significant effect between the profit values achieved in the insurance companies under study represented in the return on assets and one or more of the following factors: Net

earned premiums - commissions for reinsurance operations - net Paid claims - Underwriting costs - Change in the value of the account reserve - General and administrative expenses - Profit in the investment activity - Other revenues, see (Haber,2005)& (Al-Amiri,2013).

The research examines the data published in the statistical yearbook of people's insurance activity and fund formation during the time period from 2014-2018, issued by the Financial Supervisory Authority, and the financial reports accompanying this time period were characterized by complete and accurate data. The study examined the activities of the people's insurance sector and fund creation for three insurance companies operating in the Saudi Arabia market. The dependent variable is the profitability of the insurance company and is measured by calculating the return on total assets ROA, and the independent variables are (net earned premiums - commissions for reinsurance operations - net claims paid - underwriting costs - change in the value of the account reserve - general and administrative expenses - profit Investment Activity - Other Income), see (Badr,2014)& (Cheah,2001).

Literature review

There are many studies that dealt with the factors affecting the profitability of insurance companies. Some of these studies can be taken to find out the most important variables that they dealt with, as well as to identify their objectives, and the most important results that they have reached, and to comment on these studies and clarify the extent of their benefit, as well as determine the research gap, The following is a review of previous studies according to the historical gradation from oldest to newest:

The study of (Al-Shami,2008) aimed to determine the factors affecting the profitability of insurance companies in the United Arab Emirates, and the independent variables for the study were (the age of the company, the size of the company, the size of capital, the ratio of financial leverage, and the percentage of loss) on Profitability as a dependent variable, which can be measured based on the ROA index and can be measured by dividing profits before tax (BTP) divided by total assets (TA). The study is based on a sample of annual reports of insurance companies in the United Arab Emirates during the period (2004-2007). The study concluded that there is a large direct correlation between the size of the company, the size of the capital and profitability, as well as the existence of an inverse correlation between the financial leverage ratio and the loss ratio as independent variables and profitability, a lack of relationship between the age of the company and profitability.

In this regard, reference can be made to the study. The study (Charumathi, 2012), aimed to determine the most important factors affecting the profitability of life insurance companies in India, and it relied on the index of return on assets as a dependent change, and the independent variables were (operating leverage, company size, premium

growth rate, liquidity Underwriting risk, the ratio of property rights to the company's capital), and the study concluded that the two variables represented (company size, liquidity) have a positive relationship with the profitability of the insurance companies under study, and the existence of an inverse relationship to the variables represented in (operating leverage, premium growth rate, ratio Equity to capital) with the profitability of the companies under study, as it has been proven that there is no significant relationship to the variable related to underwriting risks and the profitability of the company.

On the other hand, the study (Burca&Batrinca, 2014) relied on dividing the factors affecting the profitability of insurance companies in Romania into two types of variables, as the internal variables were (financial leverage, growth rate in premiums, underwriting risk, retention rate, and solvency margin) , While the external variables included (financial systems, economic growth rate, financial stability), and the study concluded that there is a positive relationship for the variables represented in (company size, retention rate, solvency margin) with the financial performance of the companies under study, and an inverse relationship to the variables represented In (leverage, premium size, underwriting risk).

As for the study (Cekrezi, 2015),it aimed to explore the factors that affect the financial performance of insurance companies in Albania. The study sample consisted of five insurance companies with private capital during the period from 2008 to 2013, based on the data of the annual reports of the balance sheet of these companies, and the study concluded that the financial leverage (Total debt to total assets) and risk (standard deviation of sales to average sales value) have a negative impact on the financial performance of the insurance companies under study, while the ratio of fixed assets to total assets has a positive effect on the financial performance of these companies.

The study extended (Mazviona, et al., 2017) to determine the most important factors affecting the performance of insurance companies in Zimbabwe, in light of the secondary data of twenty insurance companies during the period from 2010 to 2014, the study relied on the use of a factor analysis method and multiple linear regression models to determine the factors affecting the performance of the companies under study and the percentage of their impact, The results of the study concluded that each of the expenses ratio, the claims ratio, and the size of the company have a negative impact on the performance of the insurance companies under study, while the variables of financial leverage and liquidity affect the performance of these companies positively. The study recommended that insurance companies follow mechanisms that would reduce costs. Operational.The study (Ismail et al., 2018) addressed:To the macroeconomic variables represented in the gross domestic product (GDP), the consumer price index (CPI) and the interest rate (IR) as independent variables that affect the performance of insurance companies - represented by the return on assets (ROA) - in Malaysia, and the study relied on the report data The annual number of 6

insurance companies listed on the Malaysian Stock Exchange from 1996-2015, by calculating the Pearson correlation coefficient and regression analysis to measure the relationship between the variables, and the study concluded that both GDP and CPI are inversely related to ROA, the higher the inflation rate. On the other hand, the IR index is negatively correlated with the ROA, which is measured using the consumer price index, the profitability of the company has decreased. The study recommended that more studies should be conducted to examine the relationship between financial ratios and economic indicators.

The study of (Irem& Bashir, 2019) aimed to determine the factors that affect the profitability of life insurance companies in India using the Panel data method, as the study sample included 12 life insurance companies, and their data were relied on during the period from 2005 to 2015. The study relied on econometric analysis to determine the effect of micro-economic factors on the profitability of life insurance companies in India. The study concluded that there are several independent variables that explain the profitability of the life insurance companies under study. They are (liquidity, loss ratio, investment performance, operating margin, that the ratio of fixed assets to total assets, premium growth rate), and the insignificance of the independent variables (leverage, commission ratio, company size).

Methodology and results

Data validity test for statistical analysis:

The use of some statistical models that depend on time series, such as factor analysis, requires the necessity to verify some of the model's hypotheses before starting its application. The most important of these considerations is the necessity to ensure the existence of stability in the time series of the data, in addition to the absence of linear interference, and to ensure that the data follow the normal distribution, the absence of a self-correlation of the residual series, and the stability of the variance of random error. In the event of statistically uncertainty about the availability of the statistical requirements of the proposed model, these data must be reprocessed in a way that enables us to apply statistical models with time series, and to reach significant results that are not misleading. The table shows the necessary tests to ensure the validity of the data, and its suitability for testing hypotheses, where the data of the companies under study relied on the period 2016-2020.

Table No. (1): Test the validity of statistical data for the variables of the proposed model

Variables		Net Premium Earned	Commissions for reinsurance operations	Net claims paid	Underwriting costs	The change in the value of the mathematical reserves	General and administrative expenses	Profit investment	Other income	Return on total assets ROA			
		X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈	Y			
Linear interference test	Multicollinearity	Tolerance	1	1.18	3	4.20	2.72	9	2.86	5	4.01	3	4
		VIF	1	2.37	2	5.64	3.95	6	3.97	1	5.32	4	4
Normal distribution test	Jarque-Bera Test	B-J	2.696	0.894	2.931	1.898	1.706	1.451	2.814	3.303	1.631	0.252	
		Prob.	0.462	0.281	0.275	0.251	0.381	0.264	0.240	0.270	0.252		
The random error variance instability test			Heteroskedasticity (white test)				0.018						
Self-correlation test			Autocorrelation				2.140						

The previous table includes a set of statistical tests that reflect the extent of data suitability for the proposed model. Among the most important assumptions on which the proposed model relies is that there are no problems affecting the validity of the proposed study variables, and therefore the autocorrelation test was relied upon, and this test was applied through the use of the Durbin Watson Test. This test indicates the validity of the values of the independent variables and their correlation with the dependent variable to a large degree. It is clear from the table that the test result is 2.140 and it is within the appropriate range of [1.5-2.5], which indicates that there is no self-correlation problem between the proposed variables of the model. While reflecting the results of the linear interference test, which is considered a measure to clarify the extent of the correlation effect between the variables, where the linear interference is examined using a collinearity diagnostics scale to calculate the tolerance factor for each of the independent variables to obtain the Variance Inflation Factor (VIF). The coefficient (VIF) did not exceed five; this indicates the strength of the study variables in explaining the effect on the dependent variable. It is clear from the table that all the

variables of the proposed models are less than five, indicating that there are no problems with linear interference between the variables.

The dependence of the data on the normal distribution is one of the most important assumptions of the proposed model, and to verify that the data are distributed normally, the Jarque-Bera Test was used, which is one of the parameter tests. By referring to the (P-value) of the study variables, it becomes clear that all the proposed variables follow a normal distribution. The researchers also applied the random error variance instability test, which measures the extent of the random error variance, which is one of the assumptions of the linear regression and the proposed model, and its value is less than 5%. It is clear from the previous table that the result of the instability test amounted to 1.8%, and this indicates the stability of the standard error variance, and that the study variables are valid to explain the change in the dependent variable.

The most important factors affecting the profitability of the companies under study using the proposed model

The researcher entered data depending on the statistical program R, which reflects the proposed elements to affect the profitability of the companies under study, as the return on total assets ROA was used as a variable of the profitability of life insurance companies, while the variables were relied on (net earned premiums - commissions for reinsurance operations - Net paid claims - Underwriting costs - Change in the value of the account reserve - General and administrative expenses - Profit from the investment activity - Other revenues) as independent variables, for each of the companies under study that were identified as a sample for study and during the estimated study period. The following results were obtained using the R statistical program:

Table No. (2): KMO and Bartlett's Test

Anti-image Matrices		X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈
Anti-image Correlation	X ₁	0.708	0.202	0.854	0.684	0.302	0.433	0.936	0.138
	X ₂	-0.178	0.831	-0.182	0.351	0.329	-0.413	-0.249	-0.139
	X ₃	0.854	-0.182	0.650	0.445	-0.176	0.428	0.803	0.272
	X ₄	0.684	0.351	0.445	0.825	0.353	-0.128	0.510	-0.142
	X ₅	-0.278	0.329	-0.176	0.353	0.724	0.523	0.235	-0.157
	X ₆	0.433	-0.413	0.428	-0.128	0.523	0.673	0.502	-0.361
	X ₇	0.936	-0.249	1.003	0.510	0.235	0.502	0.663	0.152

	X ₈	0.138	-0.139	0.272	-	-	-0.361	0.152	0.892
Bartlett's Test of Sphericity	Approx. Chi-Square	Df		Sig.	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			0.704	
	101.257	27		0.000					

a. Measures of Sampling Adequacy (MSA)

The previous table reflects the total correlation matrix, which represents a measure of the sampling suitability MSA, which is calculated for each variable separately to determine the suitability of the factor analysis for the proposed variables. The scale for each individual variable is greater than 0.65, which is statistically acceptable. Thus, all the proposed variables can be relied upon, and none of them will be omitted (Bartlett's Test), as the value of the Sig statistician is less than the level of significance used by 5%. Therefore, a factor analysis model can be applied, and the reliability of the results can be ensured. The Commonalities table represents the first output of the proposed model that reflects the initial solution, and the subscription values for the proposed variants.

Table No. (3): Contribution values and frequency for the proposed variables

Communalities	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈
Initial	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Extraction	0.917	0.761	0.996	0.81	0.814	0.832	0.686	0.936

Extraction Method: Principal Component Analysis.

The previous table reflects the estimated values of contributions. The basic components method has been relied upon, which represents one of the most common methods of application of factor analysis models and represents the most accurate factor analysis method in the results. We notice from the output of the table that the initial values of the variables are equal to one. The last row represents the subscriptions extracted values for all variables, ranging from zero to one. Where we find that the value of the subscriptions extracted for the first variable is equal to 0.917, which can be interpreted as the ratio of the variance explained by common factors. While the value of contributions for the second variable, which represents reinsurance commissions, was 0.761, and therefore, there is 76.1% of the variance, which is explained by the common factors in the model. It is clear from the results that the number of significant factors included in the model ranges from one to eight factors, and they reflect the number of variables. The following table represents the second output of the proposed model, which is the matrix of unmanaged factors.

Table No. (4): Matrix of unmanaged factors for the proposed variables

⌋	X ₄	X ₃	X ₁	X ₂	X ₇	X ₈	X ₅	X ₆
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	Underwriting costs	Net claims paid	Net Premium Earned	Commissions for reinsurance operations	Profit investment activity	Other income	The change in the value of the mathematical reserve	General and administrative expenses
Component								
1	-0.790	-0.735	0.907		0.732	0.706	0.650	-0.013
2		-0.259	0.605	-0.615		0.272		-0.504

Extraction Method: Principal Component Analysis.
Two components extracted.

Through the results presented in the previous table, it is clear that the analysis has returned only two factors. And through studying the loads of each of them, as the first factor includes six variables with high loads, more than 0.5, and these variables included (subscription costs - net paid claims - net earned premiums - profit in investment activity - change in the value of the mathematical reserve). While the second factor included five variables, of which only two have high loads, and they represent the remaining variables of the first factor. The following table shows the explained variance ratios for each of the proposed model factors.

Table No. (5): the variance ratios explained for each of the proposed factors for the model

		Component	1	2	3	4	5	6	7	8	
Total Variance Explained	Initial Eigenvalues	Total	4.556	2.417	1.15	1.002	0.722	0.513	0.319	0.303	
		Variance %	44.036	14.635	12.964	9.657	7.611	5.003	2.577	2.373	
		Cumulative %	44.036	58.671	71.635	81.292	88.903	93.906	96.483	98.856	
	Rotation Sums of Squares	Total	4.556	2.417							
		Variance %	44.036	17.303							

	Cumulative %	44.036	60.216
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It is evident from the outputs of the previous table that the value of the first latent root, which represents the sum of squares (Total Sum of Squares), amounted to 4.556, and therefore the value of the interpreted percentage of variance depending on the first factor is 44.036%, which was estimated by dividing the value of the latent root by a number Factors (8). Hence, a large part of the variance of the ROA variable is explained by the first factor. We also see that after entering the second factor, we find that the value of the first latent root (the sum of squares) was 2.417. The proportion of the variance explained by the second factor only was 17.303%, and the variance explained by the first and second factors together reached 60.216%, and thus the proposed model will be interpreted through the first and second factors together, as adding any other factor will not increase the strength of the explanatory model. The following table shows the transactions matrix after rotation.

Table No. (6): Matrix of managed factors for the proposed variables

Rotated Component Matrix ^a	X ₄	X ₃	X ₁	X ₂	X ₇	X ₈	X ₅	X ₆
	Underwriting costs	Net claims paid	Net Premium Earned	Commissions for reinsurance operations	Profit investment activity	Other income	The change in the value of the mathematical reserve	General and administrative expenses
Component								
1	-0.901	0.828	0.741		0.649	0.574	0.534	-0.155
2		0.391	0.524	-0.757		0.144		-0.629

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization .
Rotation converged in 5 iterations.

The matrix of transactions after rotation includes the interpreted values of the two extracted factors, and it is clear from the table that the first factor is related to the proposed variables with different correlation coefficients, as the degree of saturation of the variable that represents underwriting costs in the first factor is 0.901 and this variable has a reverse trend. The degree of saturation of the first factor with the variable representing net paid claims reached 0.828 in a reverse direction, and the degree of saturation of the factor with the variable net earned premiums was 0.741, followed by the variable that reflects the profit of the investment activity with a degree of saturation of 0.649, then the variable representing other revenues with a degree of saturation of 0.574, while the degree of saturation reached The first factor in the variable, general and administrative expenses, 0.155, is of reverse trend. As for the second factor, the most powerful variables related to this factor and which have a high degree of saturation are, respectively (reinsurance commissions - general and administrative expenses - net earned premiums - net paid claims - other revenues). The following table shows the variance ratios explained for each of the workers in the proposed model after rotation.

Table No. (7): the variance ratios explained for each of the proposed factors for the model after rotation

	Component		1	2
	Total Variance Explained	Extraction Sums of Squared Loadings	Total	4.556
Variance%			44.036	17.303
Cumulative %			44.036	61.339
Rotation Sums of Squared Loadings		Total	4.556	2.417
		Variance%	40.064	21.275
		Cumulative %	40.064	61.339

The previous table explains the results of the variance analysis for each of the first and second factors of the proposed model. It is clear that the first factor succeeded in explaining 44.036% of the changes that occurred in the dependent variable in the model, which is represented by the rate of return on assets, while the second factor alone explained 17.303% of the variances in The second variable, as we see that each of the first and second factors combined explain 61.339%, before the rotation. After rotating the matrix, we notice that the interpreted variance coefficient for each of the two factors together, which reached 61.339%, did not change, while the interpretation ratios for each factor changed separately, as the variance ratio explained by the first factor reached 40.064%, and it reached 21.275% for the second factor alone. It is clear that the first factor included all of the variables (underwriting costs - net paid claims -

net earned premiums - profit of investment activity - other revenues - change in the value of the mathematical reserve), while the second factor included the rest of the variables. To estimate the coefficients of the explanatory regression function for the variables included in both the first and second factors, one can rely on the global degrees of the independent variables, which appear in the rotation matrix of the previous components. The following table shows the global scores for each of the explanatory variables for each of the first and second factors.

Table No. (8): global scores for the explanatory variables in the proposed model

Variables		Net Premium Earned	Commissions for reinsurance operations	Net claims paid	Underwriting costs	The change in the value of the mathematical	General and administrative expenses	Profit investment activity	Other income
		X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈
Component Score Coefficient Matrix	Component 1	0.701	-0.112	-0.809	-0.892	0.324	-0.109	0.615	0.302
	Component 2	0.406	-0.715	0.108	-0.015	0.604	-0.695	0.184	0.045

Through the data presented in the previous table, it is possible to construct the regression equation for each of the first and second factors, which reflects the degree of saturation and correlation of each of the workers with the proposed variables. And the following function shows the regression structure of the first factor: -

$$\text{factor}_1 = 0.701x_1 - 0.112x_2 - 0.809x_3 - 0.892x_4 + 0.324x_5 - 0.109x_6 + 0.615x_7 + 0.302x_8$$

While the following function shows the regression structure of the second factor: -

$$\text{factor}_2 = 0.406x_1 - 0.715x_2 + 0.108x_3 - 0.015x_4 + 0.604x_5 - 0.695x_6 + 0.184x_7 + 0.045x_8$$

Conclusion

Through the results of the research, it became clear that there is a direct relationship between the first factor and each of the explanatory variables (net earned premiums - change in the value of the mathematical reserve - the profit of the investment activity -

other revenues). It also appears that it takes the form of the inverse relationship between the first factor and each of the variables (reinsurance commissions - net paid claims - underwriting costs - general and administrative expenses). It is a strong correlation relationship between the first factor and each of the variables (net earned premiums - net paid claims - underwriting costs - profit of the investment activity), while it is a weak correlation between the first factor and each of the variables (commissions for reinsurance operations - change in the value of the mathematical reserve - General and administrative expenses - other income). As evidenced by the second factor equation, there is an inverse relationship between the second factor and each of the variables (commissions for reinsurance operations, underwriting costs - general and administrative expenses). There is also a direct relationship between the second factor and each of the following explanatory variables (net earned premiums - change in the mathematical reserve value - profit of investment activity - other revenues - net paid claims). It is also evident that the relationship takes the form of a strong correlation between the second factor and each of the variables (commissions for reinsurance operations - change in the value of the mathematical reserve - general and administrative expenses), while it is a weak correlation between the second factor and each of the variables (net earned premiums - net claims Paid - underwriting costs - profit from investment activity - other income). Through the results of the statistical analysis, it is possible to reject the null hypothesis and accept the alternative hypothesis from the research hypotheses that there is a significant relationship between the values of the dependent variable, which reflects the profitability of the companies under study represented in the rate of return on assets, and one or more of the following explanatory variables (net earned premiums - The change in the value of the mathematical reserve - the profit of the investment activity - other revenues - the commissions of reinsurance operations - net paid claims - underwriting costs - general and administrative expenses). The use of the factor analysis method had a significant effect in explaining the impact of the proposed explanatory variables, which were grouped into two factors. Only, the first factor included all of the variables (underwriting costs - net paid claims - net earned premiums - profit of the investment activity - other revenues - the change in the value of the mathematical reserve), while the second factor included the rest of the variables.

References

1. Al-Amiri, Muhammad Ali, (2013). Modern Financial Management, First Edition, Wael Publishing and Distribution House, Jordan.
2. Al-Hajami, Raad Hamid Karim, and Al-Ameri, Muhammad Ali Ibrahim, (2016). The Impact of the Capital Adequacy of the Insurance Company on Its Profitability: An Applied Study, Journal of Accounting and Financial Studies, Iraq, Volume Eleven, Issue 34, pp. 1-26.
3. Al-Shami, Hamdan Ahmed Ali, (2008). Determinants of Insurance Companies' Profitability In UAE. Master's thesis, Universiti Utara Malaysia.

4. Al-Tarawneh, Anas Musleh, (2015). Factors Affecting the Evaluation of Financial Performance of Jordanian Insurance Companies: An Empirical Study on Insurance Companies Listed in Amman Stock Exchange, Master Thesis, College of Business, Middle East University, Jordan.
5. Al-Zubaidi, Mahmoud, (2011). Financial Analysis for the Purposes of Performance Evaluation and Predicting Failure, Al-Warraq for Publishing and Distribution, Amman, Jordan.
6. Badr, Ashraf, (2014). Early Warning Indicators, Their Meaning and Their Application to the Business Results of Insurance Companies, General Authority for Financial Supervision, Central Administration for Policies and Research, Cairo, Egypt.
7. Burca, Ana-Marria & Batrinca, Ghiorghe, (2014).The Determinants of Financial Performance in the Romanian Insurance Market, International Journal of Academic Research in Accounting, Finance and Management Sciences Vol. 4, No.1, pp. 299–308.
8. Charumathi, B. (2012). On the Determinants of Profitability of Indian Life Insurers – An Empirical Study, Proceedings of the World Congress on Engineering, Vol I, London, U.K.
9. Chekrezi, Anila (2015).Factors affecting performance of commercial banks in Albania, International Conference on Business and Economics, Albania.
10. Cheah, Belzil, (2001), Unemployment insurance and subsequent job duration:job mating versus unobserved heterogeneity, Journal of Applied Econometrics, 3, (5).
11. Haber, S. & Reichel, A. (2005). Identifying performance measures of small ventures- the case of the tourism industry. Journal of Small Business Management, 43(3), 260
12. Hock, B., (2010), Certified Management Accountant, Financial Planning, Performance & control, Ohio: Hock international, LLC
13. Hussanie, Irem & Joo, Bashir Ahmad, (2019). Determinants of Profitability of Life Insurers in India- Panel Evidence, International Journal of Management Studies V. (1(7)):58.
14. Ines Holzmüller, (2008). The United States RBC Standards, Solvency II, and The Swiss Solvency Test: A Comparative Assessment, Working Papers on Risk Management and Insurance No. 59 Edited by HatoSchmeiser Chair for Risk Management and Insurance.
15. Ishmael Sharara, Mary Hardy & David Saunders, (2010). Regulatory Capital Standards for Property and Casualty Insurers under The U.S., Canadian and Proposed Solvency II (Standard) Formulas, February 25.
16. Ismail, Noraini, Ishak, Izzaamirah Abdul Manaf, Normaisarah, Husin, Maizaitlaidawati (2018). Macroeconomic factors affecting performance of insurance companies in Malaysia, Academy of Accounting and Financial Studies Journal, V. 2.
17. Mazviona, BatsiraiWinmore, Dube, Mbakisi and Sakahuhwa, Tendai (2017).An Analysis of Factors Affecting the Performance of Insurance Companies in Zimbabwe, journal of Finance and Investment Analysis, 2241-0996 (online).

