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THE DETERMINANTS OF THE PERFORMANCE OF THE LIFE INSURANCE COMPANIES IN TUNISIA

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Abstract

In recent decades, Business performance has attracted the attention of researchers in the literature of corporate finance. Particularly speaking, the insurance industry was also a subject of interest and many factors are to be considered when dealing with the insurance companies. As a matter of fact, both the consumers and investors are concerned with the financial strength of the insurer and his/her ability to meet the ongoing commitments to insurance policyholders. The insurance industry is one of the fundamental elements in the financing of the Tunisian economy and contributes to the state's effort to support the development of the country. According to the insurance industry experts, the year 2011 has been difficult for the insurance companies. In this study, we examined the impact of the characteristics of the company (size, leverage, tangibility, risk, growth, liquidity and age) on the performance of 8 life insurance companies in Tunisia all along a period of 10 years (ranging from 2005 to 2014). Analysis of the results of a regression on panel data indicates that the variables size, age and premium growth measured by ROA ratio (Return On Asset) are the most important determinants of the insurance companies performance. The performance of insurance companies is not statistically significant with such variables as leverage, tangibility, liquidity and risk.

Keywords: *Performance, Firm's Characteristics, Life Insurance, ROA, Panel Data, Tunisia*

INTRODUCTION

Insurance companies are considered to be of importance for individuals, corporations and businesses. Indeed, they compensate the losses and recover the insured wherever they were before the risk occurs. In addition, the insurers offer such social benefits for companies as prevention and reduction of a harmful loss.

Insurance can be defined as a service that provides a benefit in case a risk occurs. This service has usually a financial nature in favor of an individual, association or business in exchange for collected premiums or contributions. Thus, insurance is the economic sector that includes the conception, production and marketing of this type of service.

Given the rapidly changing financial markets, banks and insurance companies are facing a strong competition. Traditional performance management seems to be insufficient to meet the needs of financial institutions of strategic development Zhang and Li (2009).

Performance is an association between operational efficiency and strategic effectiveness. The former has as objective to improve products, services, production processes and marketing management and human resources while the latter precedes the competition by positioning itself into a fully growing market Chandler (1992).

In another vein, the problem of measuring the performance of insurance companies has been well developed in the literature of financial theory. These companies' profitability can be influenced by external and internal factors Demergu -Kuntand and Huizinga (1999).

This paper examined the impact the specific characteristics of a business on the performance of insurance companies in the case of life insurance. The question that may arise, in this regard, is what the key determinants of profitability of life insurance companies in Tunisia are.

To answer this question, a review of the literature on the determinants of the performance of financial institutions, mainly banks and insurance companies will be presented. Then, the determinants of the performance of life insurance companies in Tunisia, on the basis of our selected sample will be dealt with by analyzing the descriptive statistics for the explanatory variables and interpreting the results of the estimation of the model selected.

LITERATURE REVIEW

Generally speaking, the majority of studies about the bank's performance were conducted on samples of US banks and some European ones. These studies include Berger (1995), Neeley et al Wheelock (1997), and Angbazo (1997). Other works that studied the performance of banks in other countries are Barajas et al (1999) in Britain, Afanasieff et al (2002) in Brazil, Gourou et al (2002) in Malaysia, Ben Naceur & Goaid (2001) in Tunisia, Ben Naceur, (2003), Ben Naceur

S Omran (2008) and (2011) for the MENA banks, and Lee, C. C., Hsieh, M. F., & Yang, S. J. (2013), (2014) in Asia.

In recent decades, the determinants of performance have been widely researched in the literature of finance company. Berger (1995), for example, conducted a survey on a sample of US banks to determine the impact of the return on capital on equity and used the ratio ROE (Return on Equity) to measure bank performance. He came to the conclusion that there exists a positive impact of the return on capital on equity. In addition, the effect of the characteristics of the American banks on the net interest margin was examined and results showed that the net interest margins of the banks have a positive relationship with the leverage, the opportunity cost, efficiency default risk and management.

Neeley & Wheelock (1997) studied the determinants of commercial banks profitability and found out that profitability is positively related to the evolution of the gross domestic product (GDP) per capita. Ben Naceur and Goaid (2003), on the other hand, focused on measuring the performance of Tunisian commercial banks. The empirical data used in their study were excerpted from the database of the Central Bank of Tunisia (CBT). The sample included the largest commercial banks in Tunisia (10 banks) during the period from 1980 to 2000 period.

Ben Naceur & Omran (2011) examined the influence of banking regulations, concentration and the financial and institutional development on the margins of commercial banks and their profitability. The empirical results of this study revealed that the specific banking features, especially the bank capitalization and credit risk, have a significant positive impact on the net interest margin, cost efficiency and profitability of banks.

It is to be noted, in this respect, that the different characteristics of banks are an important part of the variation in both the net interest margin and the bank's performance. Indeed, the net interest margin and high performance tend to be associated with banks that hold a relatively large amount of capital.

Other determinants of bank's performance on the net interest margin on bank loans have a significant positive impact. Thus, the size has a coefficient negative importance on the net interest margins. This finding may simply reflect inefficiencies in the balance. In addition, such macroeconomic indicators as inflation and growth rates have no impact on the net interest margins and bank profitability.

Finally, the financial structure has an impact on the performance of the bank and the net interest margin. In fact, the concentration is less beneficial for competing commercial banks in Tunisian. Moreover, the development of the stock market has a positive effect on the performance of banks. This justifies the complementary nature between the performance of the bank and the growth of the stock market which can be considered as a factor for economic

growth. In the same respect, the development of the disintermediation of the Tunisian financial system supports the performance of the banking sector in particular and the economy in general.

Guru et al. (2002) studied the determinants of the performance of Malaysian banks during a ten-year period (1986-1995). They chose two characteristics at the micro and macro levels. The results showed that inflation and the effective expenditure management have a negative impact on profitability while the interest rate has a positive impact.

The results of the research conducted by Sufian (2009) on the study of the determinants of profitability of financial institutions indicated that credit risk and intensity of the loans are inversely proportional to profitability. Thus, big sized financial institutions that have a significant level of expenditure tend to have a high profitability ratio.

By contrast, in other studies, such as Neaime Hakim (2005)'s, liquidity, capital and investment are important determinants of bank profitability.

In addition, growth in the money supply has a negligible effect on profitability, while GDP and capitalization of assets on the stock market have a negative relationship with ROA (return on assets). Then, profitability is positively influenced by the size, sales growth and investment. On the other hand, assets and existing leverage are negatively correlated with profitability. Several studies have been made to measure the performance of insurance companies. For example, the operational state of insurers has no impact on profitability by providing public coverage but has a significant impact on the profitability of insurance companies. However, size, investment and liquidity are the key determinants of the financial viability of insurance companies.

As for the role of consolidation and deregulation in the insurance sector in Spain, Cummins and Rubio-Misas (2006) analyzed the effect of the European Insurance Directives (1994) and the Spanish government policy in 1980 on the changes in the Spanish insurance market structure. These authors claimed that consolidation excluded inefficient and poorly performing companies from the market. In the Spanish insurance sector, the role of the organizational form is analyzed by comparing the stocks and the mutual insurers.

Ahmed et al. (2011) studied the impact of the characteristics of the insurance companies in Pakistan on the performance thereof. They selected a sample of five insurance companies for a period of seven years (2001-2007). In their study, the performance is expressed by the ratio of the economic profitability (ROA) on seven variables. They proceeded to estimation by the method of OLS (Ordinary Least Square) to justify the most important determinants of the performance of insurance companies. These authors concluded that performance is positively influenced by the level of risk and the size of the firm but negatively influenced by the debt ratio

(leverage). They added that companies should diversify their investment techniques and use an effective hedge in order to create adequate financial income because diversification reduces risk level.

METHODOLOGY

The Data & Sample

In 2014 and within Tunisian settings, the national economy recorded a growth of 2.3% thus continuing a positive evolution. Domestic demand has remained the main driver of growth since 2010. Indeed, the overall consumption increased in 2014 by 4.3% in real terms.

In 2014, the Tunisian insurance market recorded the following results:

- The premiums of the insurance industry totaled 1 556.069 MD in 2014 against 1 412.670 MD in 2013, an increase of 10.15%.
- The paid losses recorded a slight decrease of 1.08% from 849.188 in 2013 to 840.005 MD in 2014.
- The operating expenses totaled an amount of 358.814 MD in 2014 against 303.498 in 2013, an increase of 18.23%
- The technical reserves recorded an increase of 9.81% in 2014 from 3 032.143 MD 2013-3 329.538 MD in 2014.
- The amounts of investments included the assets of the balance sheets amounted to 3 MD in 2014 against 710.579 328.296 3 MD in 2013, a growth rate of 11.49%.
- The technical result for the financial year improved in 2014, it showed a surplus of 94.355 MTD against 87.818 MD in 2013.
- The consolidated balance sheets reached a profit of 106.815 MD in 2014 against a profit of 82.495 MD in 2013.

According to the annual report published in 2015 by the Tunisian Federation of insurance companies, there are 22 insurance companies currently operating in Tunisia.

The sample includes 8 key life insurance companies in Tunisia during 2005-2014. This is justified by the availability of data which are collected from the annual financial statements of companies.

The database will be not be accounted for in the analysis of mutual insurance companies because the information on the financial statements in the period (2005-2014) are not available.

The Model

In this study, the model used was developed by Ahmed et al. (2011) who studied the impact of specific variables of a company (size, leverage, tangibility, risk, premium growth, liquidity and age) on the performance of insurance companies in Pakistan. He focused on five insurance companies for a period of 7 years (2001-2007) and used the ratio ROA (Return on Asset) as a measurement of performance that is a regression in terms of explanatory variables.

In this context, the model used in this study is represented as follows:

$$PR_{it} = \beta_0 + \beta_1(LG_{it}) + \beta_2(TA_{it}) + \beta_3(SZ_{it}) + \beta_4(LQ_{it}) + \beta_5(AG_{it}) + \beta_6(RC_{it}) + \beta_7(GR_{it}) + \varepsilon_{it}$$

PR_{it} = Performance (ROA) = (net earnings before interest and taxes divided by total assets).

LG_{it} = Leverage (Leverage) = (total debt / total assets).

TA_{it} = Tangibility (Tangibility) = (capital assets / total assets).

SZ_{it} = Size (Size) = Ln (premiums).

LQ_{it} = Liquidity (Liquidity) = (Short term assets / short term Liabilities).

AG_{it} = Age (Age) (The difference between the observed year and the company's creation of year).

RC_{it} = Risk (Risk) = (The standard deviation of the ratio of total premiums requests).

GR_{it} = growth (Growth) = (Premiums Percentage Variation).

ε_{it} = The error term

ANALYSIS AND RESULTS

Descriptive Statistics

Table 1, below, presents a descriptive analysis of the different variables associated with life insurance companies in Tunisia obtained using STATA software. In fact, in this study, performance is considered a dependent variable expressed as a function of the specific characteristics (independent variables) of Tunisian life insurance companies such as; leverage, size, growth, tangibility, liquidity, risk and age.

Table 1: Descriptive Statistics

Stats	N	Median	Max	Min	Standard
Leverage	80	0.2528552	0.64365028	0.1305468	0.1533324
Tangibility	80	0.7762244	1.04702	0.24352791	0.1279787
Size	80	16.18789	19.23654	9.084137	1.458582
Liquidity	80	2.574168	15.88852	0.91242	4.208691
Age	80	33.5	65	3	17.19582
Risk	80	8.432577	35	0.2435627	9.588427
Growth	80	0.1643154	10.83201	-0.99894	0.1643154

This table's analysis indicates that the minimum value of the debt ratio (leverage) is (0.13), while its maximum value is (0.64). Based on the median value, it is also noticed that 50% of Tunisian life insurance companies have an average value (0.25) which shows the importance of debt in the activity of these companies.

It is also found out that 50% of the Tunisian life insurance companies have a tangibility ratio (Tangibility) of (0.77) (median value) in a way that assets have a relatively high value in the composition of assets thereof. It is worthy to note that during this study period, half of the life insurance companies have an average value of the size (Size) variable of (16,18) which is expressed by the natural logarithm of premiums these companies received from the insured and that 50% of the population in the sample aged 33.5.

In this context, the age variable is recognized as important in the activity of life insurance companies. The latter can influence the market share and its performance. Indeed, among the life insurance companies in the sample, people with a growth rate (Growth, the premiums received equal 0.16. Therefore, changes in premiums can largely affect the profitability of life insurance companies because they are the main resources for this type of service.

Table 2: Pearson Correlation

	Leverage	Tangibility	Size	Liquidity	Age	Risk	Growth
Leverage	1						
Tangibility	-0.0943	1					
Size	-0.1142	0.6966	1				
Liquidity	-0.1446	0.1377	-0.01391	1			
Age	-0.0585	0.0539	0.0589	0.0399	1		
Risk	-0.3722	0.1303	0.1276	0.1742	0.5956	1	
Growth	0.1305	-0.0217	0.0231	-0.0018	0.0196	-0.1088	1

Furthermore, the results show no coefficient that exceeds the tolerance limit (0.7), which poses no problem in the performance of the regression (ROA). The results of these tests are displayed in Table 2 above.

Analysis of the Results of the Estimation

After interpreting the results of descriptive statistics table and that of correlation, the results of the estimation of this study's model which measures the performance of life insurance companies are presented in table 3 below.

First, regression on panel data (two dimensions: individual and temporal) is displayed. In this case, there is a problem in the estimation. In other words, we will choose between the

estimation of fixed or random effects. Our choice is justified by the probability of the Hausman test which must be compared to a value of 10%.

Table 3: The Results of the Estimation Model for Performance Measuring

Pr	Coeff	Std. Err.	Student'st	P> t	[95% Conf. Interval]
Constant	0.011267	1.979826	1.55	0138	-1.026277.046603
Leverage	-0.1133798	0.8600967	-0.13	0914	-0.53277341.5607563
Tangibility	0.0131014	0.2664793	0.06	0968	-0.5419253-0.0136733
Size	-0.2877893	0.1382404	-2.27	0042**	-0.00220392.0227791
Liquidity	0.0102876	0.0060652	1.70	0102	0.02226040.090817
Age	0.0566387	0.0176437	3.45	0003***	-0.00611389.0072396
Risk	0.0005639	0.0032518	0.18	0874	0.06256430.5070237
Growth	0.285792	0.1179036	2.65	0015**	-1.126077.046603
Significant at a threshold value (*) 10% (**) and 5% (***) 1%.					
R ² =0.5853					
AdjustedR ² =0.5436					
F(6.66)=4.90					
P>F=0.0015					
Hausman test: P> chi2 = 0.0045					

Based on the results presented in Table 3 and because Hausman test probability equals (0.0045) which is less than 10%, we chose the fixed effects model.

In fact, the probability is equal to Fisher (0.0015) and is less than 5%. Thus, the estimated model is of global importance.

The value of R² is (0.5853) indicating that the performance of insurance companies in Tunisia depends almost 58.53% on the independent variables namely, leverage, size, growth, tangibility, age, risk and liquidity.

Therefore, the performance of insurers is mainly defined by these seven variables during the study period.

Table 3 shows that the size variable is inversely proportional to the performance of Tunisian life insurance companies. The results show that the coefficient (size) is negative (-0.2877893). Thus, this variable has a statistically negative significance (-2.27) with a threshold of 5%. For this, the Tunisian life insurance companies are small but they are more effective than larger sized ones.

The coefficient of age is positive (0.0566387). Thus, this variable has a positive significance according to the Student t test, which is equal to (3.45) to the effect of 1%. Therefore, the age of a given insurance company may affect its performance. This is explained by the age of the life insurance companies and their presence on the Tunisian insurance market.

The positive coefficient on the variable growth (premium growth) indicates a positive relationship between growth and yield. Thus, growth is a variable that has a positive coefficient (0.285792). This variable has a statistically positive significance (2.65) to 1%. The increase in the received premiums positively affects the level of performance of Tunisian life insurance companies. In this case, premiums can be an important variable and make a direct impact on the profitability of insurers.

However, other variables have no influence on the levels of performance of life insurance companies. As a matter of fact, the performance of a company, regardless of its type of activity depends on many internal and external factors that are related to the activity performed by each type of business.

CONCLUSION

This study examined the impact of the characteristics of Tunisian life insurance companies on the level of performance of the insurance sector in Tunisia during a ten -year period (2005-2014). To this end, the debt ratio, size, age, risk, liquidity, growth and tangibility are opted for as explanatory variables while the ROA variable was considered a dependent one.

The results of the estimation of a regression model on panel data showed that three variables namely; size, age and growth are the most important determinants of performance in the insurance sector in Tunisia during the period from 2005 to 2014.

In brief, the two variables age and growth have a positive impact on performance while the size variable has a negative impact. The other variables (Leverage, tangibility and liquidity risk), on the other hand, are negligible when it comes to the performance of the Tunisian life insurance companies.

ZITOUNA TAKAFUL is an Islamic insurance company operating according to the mode of operation Takaful.

REFERENCES

- A. Berger, "The relationship between capital and earnings in banking," Journal of Money, Credit and Banking, vol. 27, pp.404-431, 1995.
- A. D. Chandler, "Organization and performance of enterprises," Published by the organization, vol. 21, 1992.
- B. K. Guru and B. Shanmugam, "Determinants of Profitability Commercial bank in Malaysia" Multimedia University, Working Papers, 2002.
- Barajas, R. Steiner and N. Salazar, "Interest spreads in banking in Colombia from 1974 to 1996," IMF Staff Papers, vol. 46, pp.196-224, 1999.
- Ben Naceur. S Omran. M (2008), "The effects of bank regulations, competition and financial reforms on MENA Boulis' Profitability", working paper series n°449, Economic, Research Forum.

- Ben Naceur. S, Omran. M (2011), The effects of bank regulations, competition, and financial reforms on banks performance, *Emerging Markets Review* 122 (2011)
- Demerguç-Kuntand H. Huizinga, "Determinants of trading bank interest margins and Profitability: Some international evidence," *World Bank Economic Review*, vol.13, pp. 379-408, 1999.
- L. Angbazo, "Commercial bank net interest margins, default risk, interest-rate risk, and off-balance sheet banking," *Journal of Banking and Finance*, vol. 21, pp. 55-87, 1997.
- Lee, C. C., & Hsieh, M. F. (2013). The impact of bank capital on profitability and risk in Asian Banking. *Journal of International Money and Finance*, 32, 251-281. <http://dx.doi.org/10.1016/j.jimonfin.2012.04.013>
- Lee, C. C., Hsieh, M. F., & Yang, S. J. (2014). The relationship between revenue diversification and bank performance: Do financial structures and financial reforms matter? *Japan and the World Economy*, 29,18-35. <http://dx.doi.org/10.1016/j.japwor.2013.11.002>
- M. C. Neely and D. C. Wheelock, "Why does bank performance vary across states?" *Federal Reserve Bank of St. Louis Review*, pp.27-40,1997.
- N. Ahmed, Z. Ahmed and A. Usman, "Determinants of Performance: A case of life Insurance Sector of Pakistan," *International Research Journal of Finance and Economics*, vol.128, no. 61, pp.123-128, 2011.
- S. Ben Naceur and M. Goaied, "The determinants of the Tunisian deposit banks' performance," *Applied Financial Economics*, vol. 11, pp. 317-319, 2001
- S. Ben Naceur, "The determinants of the Tunisian Banking Industry Profitability: Panel Evidence," Working paper, University of Tunis, 2003.
- S. S. Hakimand S. S. Neaime, "Profitability and Risk Management in Banking: A Comparative Analysis of Egypt and Lebanon," *Research in Middle East Economics*, vol.6, pp.117-131, 2005.
- Sufian, F., 2009. Determinants of bank efficiency during unstable macroeconomic environment: Empirical evidence from Malaysia. *Research in International Business and Finance* 23, 54-77.
- T. Afanasieff, P. Lhacerand M. Nakane, "The determinants of bank interest spread in Brazil," *Banco Central di Brazil*, Working Papers, 2002.
- Y. Zhang and L. Li, "Study on Balanced Score card of Commercial Bank in Performance Management System," *Proceedings of the 2009 International Symposium on Web Information Systems and Applications*, Nanchang, PR China, pp. 206-209, 2009.