IMPACT OF AGE, GENDER, INCOME LEVEL AND EDUCATION ON FINANCIAL RISK TOLERANCE - CASE OF ALBANIA

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ABSTRACT

The purpose of this study is to assess whether the demographic factors such as age, gender, income, level of education, have an impact on the risk tolerance, in the case of Albania. The sample in this study consists of professors from the Faculty of Economics of the University of Tirana. The methodology used is a quantitative one which enabled the change of opinions and behavior in numerical model by using the multi regression analysis. The results of this research suggest that age, income level and education affect the risk tolerance level of individuals in Albania. These results can be compared to the results of other previous international studies intending to assess the consistency of conclusions and to contribute to the literature.

Key words:
tolerance, risk, demographic factors, Albania

1 INTRODUCTION

Everyday individuals come across several situations in which they have to take decisions of different natures, specifically financial ones, such as the selection among investment alternatives at different risk levels. According to Modern Investment Theory, the investment goals, the time horizon, financial stability and risk tolerance are the main factors that influence the drafting of an effective financial plan [1]. Out of the above-mentioned factors, the risk tolerance is considered the most difficult one to be determined. Creating logic on how people perceive the risk is especially important for companies which offer financial counseling services. They have to be careful in selecting the investment alternatives that they offer to their clients. Not only the financial consultants but also different researchers have always been interested in assessing the risk tolerance and identifying factors that affect it.

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The relevant literature is quite wide and suggests that demographic, psychological, social, economic, type of personality and cultural factors are determinants of risk tolerance and risk perception [2, 3, 4, 5]. There are numerous international studies in this field, however, there are no such studies in Albania. Given this fact, the purpose of this paper is to study the relationship between demographic factors such as age, gender, income level, education with the risk tolerance among a certain group of individuals. The sample selected consists of professors of the Faculty of Economics of the University of Tirana. Considering the fact that the level of financial literacy in Albania is low [6], it would have been difficult to achieve the goals of this study, if it was performed with a wider sample.

The main research objective consists in elaborating the answers to the question: Is there any relationship between demographic factors such as (gender, age, education and income level) with risk tolerance, in the case of Albania? The results of this study can be compared to the results of other previous international studies intending to assess the consistency of conclusions and to contribute to the national and international literature.

Initially this paper deals with the existing literature on the impact that demographic factors have on risk tolerance. Further on it is described the methodology used, the findings and limitations of this study.

2 LITERATURE REVIEW ON IMPACT OF DEMOGRAPHIC FACTORS ON RISK TOLERANCE

The researches in the field of finance have dealt with the concept of risk in different ways. Traditional Finance Theories are built on the assumption that investors always make rational decisions by avoiding emotions and having a single objective: maximize the benefit in a risky and uncertain environment [7]. Whereas Behavioral Finance does not address the risk using a mechanical approach in the same way as Traditional Finance. Unlike the supporters of the Traditional Finance Theories, they consider the psychological values such as aspirations, feelings, emotions, and perception towards the right [8] as very important in the investment process. According to various authors, culture (which consists of a set of beliefs, values, customs, traditions of which most people are not aware), is related to financial decision making as well. Proponents of this theory claim that some special features make a nation succeed financially, and these characteristics vary from state to state [9]. Therefore, risk tolerance, which is also affected by financial behavior, emotions, culture is considered by different researchers as one of the most difficult factors to be determined and it tends to be more subjective than objective. Meanwhile, apart from cultural factors, financial behavior or psychological factors, different demographic factors are often considered in order to create an idea about the risk tolerance of a particular individual.

Over the years individuals become less risk-taking, and this is explained with the fact that older people will not have enough time to recover losses if things do not go right. Another reason suggested by literature is that knowledge over time becomes less up-to-date [3].

Regarding the demographic factor of gender there is still no general consensus whether this factor is important in assessing risk tolerance. Bliss & Potter (2002) [10] conducted a study to see if the gender factor influenced the management of a mutual fund. It was expected that findings of this study would reveal that mutual funds managed by female managers would have fewer investment in risky alternatives, but in fact it turned out that the gender factor was not an important factor affecting the performance of this fund. Most studies that have evaluated the relationship between gender and risk tolerance have shown that men are generally more risk tolerant than women [11]. The two authors Barber and Odean 2001 [12] have confirmed that overconfidence is the main reason why men are more approachable to financial risk than women. When making a financial investment, they overestimate the information they have and it pushes them to overestimate their future earnings, by encouraging them to trade more.

Individuals who possess a high level of income generally tend to undertake more risky investments and be more tolerant to it [13]. Financial managers have come to the conclusion that investors experiencing increased investment income are constantly looking for other beneficial alternatives. Students who are employed during their study period (that is they have economic independence) are more risk tolerant than other students who are financially dependent on their parents [1]. A higher status is generally associated with a higher level of income such is the case of professors, doctors, executives, artists etc). According to Roszkowski (1993) [14], the higher the status of an individual in society, the more this individual will accept the risk in the investments he/she undertakes.

A high level of education makes individuals more tolerant to risk as they have enough knowledge to anticipate or manage certain situations [11]. Knowledge and especially investment experiences influence risk perception [3]. Anbar & Erken's study [1] highlighted another viewpoint of education factor. According to them, there was a significant change in risk tolerance between students part of the faculty of economics and those of public administration, students of the faculty of economics were more risk tolerant, which not only confirms the fact that education is an important factor in defining risk tolerance, but also the fact that the more informed an individual is about finance, the more he/she tends to tolerate the risk.

As per literature review, studies have shown that the relationship between demographic factors and risk tolerance can contribute to assessing differences among people, but there is still a need to explore these relationships in different countries as some of the findings give different results.

3 METHODOLOGY

3.1 POPULATION IN THE STUDY AND SAMPLE

The criteria of participants' inclusion in the study were financial education and the income level. The population of the study compromised professors of the Faculty of Economics from the University of Tirana. The reason is related to the fact that we are dealing with individuals who have acquired complete information on risk and

investment, and this part of population has enough income to save or to make certain investments.

3.2 COLLECTION AND DATA ANALYSIS

The data were collected on the basis of a questionnaire divided into two parts; the first part contains all the demographic questions, while the second section consists of 25 general questions that evaluate the risk tolerance. This questionnaire was initially validated and it contains about 25 standardized questions that measure financial tolerance risk on the basis of specific scoring. This questionnaire was compiled taking into consideration the already published survey by Grable and Lytton (1998) and Gilliam, J., Chatterjee, S., & Grable, J. 2010 [15,16] but it was adjusted to the Albania's characteristics such as the level of income, currency, types of securities in Albania and so on. All respondents were asked to indicate extent of their risk tolerance by answering the questions of the survey. The commonly-used technique is a questionnaire which consists of questions about hypothetical investment and financial decision making. Answers were coded in numbers so that the highest number corresponds to the highest level of risk tolerance and the lowest number to the lowest levels of risk tolerance.

In order to achieve the objective of this study, the independent variables were gender, age, income level and education / academic degrees, while as a dependent variable was risk tolerance. The collected data consisted of 81 questionnaires fully filled-in and validated. Demographic data of the selected sample are presented in Table 1. The dominant age of participants in this study is 25-34 years of age (51.9%), the dominant gender is female by 67.9%, and the income level is generally 60.001-79.000 ALL. Concerning education and academic degrees, we see that there is an even distribution between the category “Professor” and “Postgraduate Education” (PhD level).

Table 1 Demographic data

Variable	No	%	Variable	No	%
Age			**Income Interval:**		
< 25 years	2	2.5%	55.000-60.000 ALL	8	9.9%
old	42	51.9%	60.001-79.000 ALL	21	25.9%
25-34	24	29.6%	79.001-90.000 ALL	16	19.8%
35-44	3	3.7%	90.000-100.000 ALL	8	9.9%
45-54	7	8.6%	100.001-120.000 ALL	17	21%
55-64	3	3.7%	>120.000 ALL	11	13.6%
> 65					
Gender			**Education /Academic degrees**		
Female	55	67.9%	Higher Education (Bachelor level)	2	2.5%
Male	26	32.1%	Higher Education (Master level)	29	35.8%
			Postgraduate Education (PhD	25	30.9%
			level)	25	30.9%
			Professor		

To define the sample characteristics, EViews 8 program provided descriptive data statistics for each variable. A cross-tabulation was constructed to estimate the impact of each independent variable on the questions of the second section of the questionnaire (which were determinants of the risk tolerance), and to see the strength of the correlation between the variables. It has to do with the matrix of the results of the coefficient "Spearman rank-order". Finally, a multiple regression was run to observe the impact of two or more independent variables on the dependent one. Examples of multiple regression models are presented in Table 2.

3.2.1 CORRELATION ANALYSIS - "SPEARMAN RANK-ORDER"

Spearman coefficient was used to estimate the impact and the relation that the two variables have with each –other. Further on the relation among only some of the variables have been presented as it was impossible to list all the possible combinations.

Firstly, we observe the impact that the independent variable "Age" has on the dependent one which was measured by asking the following question "*Have you ever borrowed money to invest somewhere?"*. Referring to this relationship the coefficient of correlation is rs = 0.065373, and is far beyond the value 1, indicating that age does not represent an influencing factor to the individual's tendency to borrow money.

The strength of the correlation between variables can also be observed between independent variables. The following example shows that between "Age" and "Education / Academic Degree" variables, there is a very strong correlation since the coefficient of correlation is rs = 0.675739. This is clear because the older someone gets, for people very near their retirement, the more academic degrees he/she can achieve. Another strong relation can be observed in the answers to the question "*Compared to others how would you list your willingness to take risks of financial nature?*" and answers to the question "*How do you feel after making important financial decisions?*" It is noted that the coefficient of correlation is rs = 0.491743.

Another relation which has been analysed is that between the independent variable "Gender" and the risk tolerance variable measured by the answer to the question "*Do Insurance companies cover a range of risks like; theft, fire, accidents, illnesses, death etc? How much coverage do you have?*" The correlation coefficient is rs = 0.041592, which means that there is no link between these two variables. It results that gender factor does not play an important role in the decision in having insurance in case of thefts, fire, accidents, illnesses, death, etc.

3.2.2 FINDINGS OF THE STUDY- MULTIPLE REGRES-MODELS

In order to find some statistically significant models, using EViews 8 program, it was tested the influence of independent variables on each of the answers to the 25 questions of the second section of the questionnaire. Based on these tests, the following models shown on table 2 were built.

Model 1 tested the impact of the four independent variables on the dependent variable through the answers to the question "*What risk degree do you intend to undertake in your financial investments*?". As per the results of model 1 it was observed that only the variable Age with z-stat = -2.4 and the variable Education /

Academic Degree with z-stat = 1.8 are important and have an impact on the dependent variable. The difference with one level in the age factor results in a decrease by 22% of risk tolerance. Whereas, the difference with one level in the education/ academic degree factor, results in an increase by 19% of risk tolerance.

Table 2: Multiple regression models

Model 1	Risk tolerance= 2.6 + -0.22Age + -0.25Gender + 0.042Income + 0.19Education/ Academic Degree
Model 2	Risk tolerance= 3.1+ -0.13Age + 0.33Gender+ 0.4122Income + -0.55 Education/ Academic Degree
Model 3	Risk tolerance= 3.1+ -0.2Age + 0.13Gender + 0.16Income + 0.199Education/ Academic Degree.

Model 2 tested the impact of the four independent variables on the dependent variable through the answers to the question "*If you had to choose between a secure job with low opportunities of salary increase or a less secure job with higher opportunities of salary increase, which one would you prefer*?". As per the results of model 2 it was observed that only the variables Education / Academic Degree with z-stat = -3.07 and the variable level of incomes with z-stat = 4.6 are important and have an impact on the dependent variable. The difference with one level in the education/ academic degrees factor results in a decrease by 55% of risk tolerance. Whereas the difference with one level in the level of income factor, results in an increase by 41.2% of risk tolerance.

Model 3 tested the impact of the four independent variables on the dependent variable through the answers to the question "*When you face with important financial decisions, do you worry more about losses or potential gains?"*. As per the results of model 3 it was observed that only the variable Education / Academic Degree with z-stat = 2.09 and level of incomes with z-stat = 3.3 are important and have an impact on the dependent variables. These two independent variables have a positive relation with the dependent variables as their beta coefficients are positive.

4 DISCUSSIONS

Nowadays, financial decision-making seems to be a difficult process under the circumstances when financial markets are developing fast, offering increasingly complex alternatives of investment. Due to the lack of financial literacy in Albania and in order to avoid the financial failure during the process of investment many individuals choose financial advisors to manage their investment portfolio. Therefore it is of special significance to identify the impact that demographic factors have on determining risk tolerance. Numerous international studies have been made having this purpose, however, studies of this nature do not exist in Albania.

Referring to the first model identified in this paper, the demographic factor "age" was estimated to have a negative impact on risk tolerance. According to this model, with the increase of age, individuals become more risk-averse and the degree of financial risk they are willing to undertake decreases by 22%. So we can conclude

that age factor has an indirect correlation with risk tolerance, a conclusion that is consistent with the findings of John E.Grable & So-Hyun Joo (2004) [3].

While running the models, it was observed that gender factor did not affect the dependent variable. The same finding is mentioned in the international literature, referred to the study of Bliss & Potter (2002) [10]. They have concluded that the managers' gender of mutual funds did not affect its performance. However, it should be emphasized that the selected sample in this study was dominated by females by 67.9%. This is related to the fact that the sample was chosen under the circumstances when the majority of University Professors in the Faculty of Economics at the University of Tirana are females. It is recommended to undertake future studies by selecting an equal number of female and male participants.

Meanwhile, the level of income has had a significant impact on two of the models that measured the dependent variable. Firstly, after making financial decisions, with the increase of income levels, individuals on average, become by 42% more and more ambitious to obtain potential higher returns. This implies that they become more optimistic and take more financial risks. This conclusion is consistent with the results of other international studies which emphasize that revenue growth makes individuals more risk seeking [3, 16]. Secondly, if an individual passes to a higher income level than he/she was before, by a 60% probability he/she would demand a salary increase, although this could endanger workplace security. This conclusion is also found in international literature such as the study conducted by Anbar & Erken (2010) [1] who found that students employed during the study period were more risk tolerant than the others who were, economically dependent on their families.

The last demographic factor relates to the education level /academic degree. This factor shows a different behaviour in two different models. Firstly, as per the third model we observe that with an increase in the level of education or academic degrees, individuals by 54% of probability are more concerned about potential gains than losses. So, the more informed an individual is, the more his/her risk tolerance increases. This conclusion can be explained by the observation that with the increase of the level of education, the individual's knowledge and experience expands, along with the confidence that the knowledge will be used properly during financial decision-making. This conclusion refers to that part of the sampling that invests. While from the results of the second model it is noticed that the level of education has a negative relation with risk tolerance. According to this model, it was concluded that an increase in the level of education or the obtaining of a higher academic degree, by 55% of probability, affects the decrease of the claim for a higher salary. This can be justified by the fact that the older an individual gets and the more academic degrees he/she obtains, the more aware he/she becomes of refraining from taking risks. This conclusion refers to the University professors who have academic degrees and are close to their retirement period.

The above findings will serve not only the companies providing financial consultancy services but also the financial institutions. Using the demographic factors as determinants of financial risk tolerance, they can generate a better description of their client's profile regarding their risk behaviour, and then offer to him/her the most appropriate products or services.

5 LIMITATIONS

While these results are compelling, it is important to mention that they are limited by our method of sampling. The selection of the sampling consisting of the professors of the Faculty of Economics is justified by the fact that it was easier to identify people with knowledge in the field of economy and at the same time with experience in the field of investments. Another limitation of this study is the selection of only four demographic variables. Future research should investigate the effect of the demographic factors such as the period until retirement, marital status, religion, family size, race etc. The selected sample is dominated by females, which has weakened the role of the gender variable in determining risk tolerance.

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