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Analysis of Individual Factors That Affect Investment Risk Preference of Individual Investors in Turkey

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Extensive Summary

Introduction

The determination of the factors affecting investors' investment decisions has a great importance for the development of financial markets and the diversification of financial investment alternatives. While investors make investment decisions, they basically value the risk and return ratio of investment instruments. Rational investors generally aim to reduce risk and increase returns; on the other hand, they want to increase their profits per unit of risk. However, investors' risk preference is influential on the level of expected return per risk unit. Risk seeking investors are willing to earn less return per unit of risk, while risk averse investors are willing to earn more return per risk unit. In this case, the identification of the individual factors that affect individuals' risk preferences is the most important necessity.

Individuals' risk preferences are influenced by both their characters and socio-cultural and economic structure. The purpose of this study is to analyze the effects of socio-cultural and economic structure of individuals on their investment risk preferences. The results obtained from this study have a great importance in predicting investment decisions of individuals. Thus, the results of the study will greatly contribute to the development of new financial instruments and the development of financial markets. Moreover, financial service providers will be able to provide appropriate services for investors because they will be able to identify investors' investment preferences more easily. Thus, investor satisfaction will also increase.

Data and Methods

In this study, a survey study was conducted with 380 people selected based on the random sampling method to determine the individual factors expected to affect their risk preferences, which was the dependent variable of this research. Individual investors' age, gender, marital status, having children, education level, salary, wealth, were taken as independent variables, and these variables were analyzed using binary logistic regression analysis.

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A nonlinear relationship between categorical dependent variables and independent variables is provided by logistic regression model. This model also introduces the probability of one of the possible values of the dependent variable, and probability is stated as odds ratio. Odds ratio is calculated using the division of the probability of occurrence by the probability of non-occurrence. This calculation is stated as follows (Akgül ve Çevik, 2005, p.390):

$$Odds = \frac{P(x)}{1-P(x)} \quad (1)$$

$$P(x) = \Pr obability\ of\ Occurrence$$

$$1-P(x) = \Pr obability\ of\ Non-Occurrence$$

The logistic regression model which is a nonlinear logarithmic model is constructed as follows (Kalaycı, 2006, s.273):

$$L = \ln\left[\frac{P_i}{1-P_i}\right] = b_0 + b_1 X_i + e_i \quad (2)$$

A logarithmic function is calculated in the logistic regression model since it can be difficult to interpret model results. For this reason, the exponential logistics coefficients are used and shown as follows:

$$\frac{P}{1-P} = e^{(b_0+b_1X_1)} \quad (3)$$

In this study, the binary logistic regression model is formulated as follows:

$$L = \ln\left[\frac{P_i}{1-P_i}\right] = \ln(odds) = b_0 + b_1 A + b_2 G + b_3 MS + b_4 HC + b_5 EL + b_6 S + b_7 W + e_i \quad (4)$$

$A = Age$

$G = Gender$

$MS = Marital\ Status$

$HC = Having\ Children$

$EL = Education\ Level$

$S = Salary$

$W = Wealth$

Findings

In the first step of the two-step analysis, only constant was analyzed in the model. In the second step, all independent variables were added to the model. While the classification success of the first step model was found about %51,8, the classification success of the second step model with all independent variables was found about %78.9. The results of the second step model obtained in Binary Logistic Regression analysis were summarized in Table 1:

Table-1: Variables in the Equation –Step 1

	B	S.E.	Wald	df	Sig.	Exp(B)
Age	-,569	,187	9,314	1	,002	,566
Gender	-1,540	,293	27,625	1	,000	,214
Marital Status	-,963	,374	6,631	1	,010	,382
Having Children	-1,639	,377	18,863	1	,000	,194
Education Level	-,280	,146	3,678	1	,055	,756
Salary	,187	,161	1,353	1	,245	1,205
Wealth	,095	,089	1,136	1	,286	1,099
Constant	2,940	,481	37,299	1	,000	18,912

According to table 1, the binary logistic regression equation could be written as follows:

$$L = \ln\left[\frac{P_i}{1-P_i}\right] = \ln(odds) = 2,94 - 0,569 * A - 1,54G - 0,963MS - 1,639CO - 0,28EL + 0,187S + 0,95W \quad (5)$$

Based on the information given in the table above, a positive relationship was found between dependent variable and salary and wealth, and other independent variables had a negative relationship with dependent variable. Moreover, a significant relationship was determined between dependent variable and age, gender, marital status, having children and education level, but a significant relationship could not be determined with salary and wealth. These results can be listed below:

- Young people love risky investments more than older people. This result is consistent with the study of Ballente and Green (2004), Hallahan et.al.(2004) and Yao et al (2011).
- People who are married and have children avoid investment risks. Grable and Lytton (1998), Sunden and Surette (1998), Yao and Hanna (2005), Chaulk et.al.(2003), Ballente and Green (2004) also obtained similar results in their studies. On the contrary, Anbar and Eker (2010) stated that having children does not affect the risk preference.
- Women are more risk aversion than men. Similar results were obtained by Jianakoplos and Bernasek (1998), Dwyer et.al. (2002), Kahyaoğlu (2011), Cardenas et.al.(2012), Charness and Gneezy (2012)
- Highly educated individuals have more risk aversion characteristics. Although this result is similar with those of Dohmen et.al.(2005), Mittal and Vyas (2007), different from the results of Grable and Lytton (1998), Schooley and Worden(1999), Hallahan (2004)and Tanyolaç and Karan (2016).
- The improvement in people's economic situation increases the tendency to take investment risks. Tanyolac and Karan (2016), Finke and Huston (2003) and Garble and Loo (2004) obtained the same results.

Conclusion

When investors make investment choices, their risk preferences have a great importance. The determination of the factors affecting investor risk preferences is a prerequisite for the development of financial markets and new investment instruments. Therefore, the effects of socio-cultural and economic structure of individuals on their

investment risk preferences were analyzed in this study. As a result of the study, it was determined that people who are young, men, single, childless, low-educated, and rich prefer more risky investment instruments. In other words, these people have risk seeking investor characteristic. In this case, people having this characteristic can be recommended risky investment instruments by investment advisors. If the number of such investors are high, new risky investment instruments can be increased in their financial market. In the subsequent studies, different individual characteristics such as occupation, financial knowledge level etc. can also be added to the analysis. Furthermore, groups can be formed according to individual characteristics and the results obtained from the groups can be compared.